The Journal of the American Medical Association

VOL. XXXII. CHICAGO, ILLINOIS, JANUARY 21, 1899. No. 3.

ORIGINAL ARTICLES.

HOSPITALS.

THEIR CONSTRUCTION, ORGANIZATION AND MANAGEMENT.

BY J. R. McDILL, M.D.

MAJOR AND BRIGADE SURGEON, U. S. V., COMMANDING HOSPITAL, FIRST DIVISION, SEVENTH ARMY CORPS.

Hospitals were not the offspring of Christianity, but were founded in India among the Buddhists several hundred years before Christ. Cut in the rocks can still be seen the edicts of Aosta, more than two thousand years old, concerning the hospitals.

The origin of our word "hospital" is derived from the name of the guest-rooms in ancient Rome—*hospitalia*. Our first hospitals originated from the spirit of charity taught by Christ, and were stimulated by the necessities of the pilgrims and the Eastern caravansaries.

The history of hospitals does not extend, like that of medicine, far back into antiquity. No information has come from the Greeks or Romans of buildings for hospital purposes only. The sick could obtain the advice of physicians in the antechambers of the Temple of Esculapius or upon the street, but not in special buildings. We only know that on one of the islands public buildings existed in which the women of Delos awaited the time of their confinement. Arrangements like the *Xenodochia, Nosokomia* and *Hospitalia* of the Greeks and Romans, were parts of the houses of small buildings in which guests were housed, and in which, when necessary, the sick were cared for. Later, in Rome, at the time of the Council of Nice, A. D. 325, the *taberna meritorum*, houses set apart for the afflicted, were in existence. These hospitals were spoken of in the Council of Nice as institutions well known and deserving support and encouragement.

In A. D. 300 several hospitals were established near Bethlehem by St. Jerome, who first used the term "hospital." To either St. Ephrain or St. Fabriolus (or perhaps Fabiola, a Roman lady who was a friend of St. Jerome) is due credit (A. D. 381) of founding infirmaries supported by charitable contributions for the exclusive treatment of the sick. About this same time (A. D. 370–380) hospitals are said to have been founded by Valens in Cæsarea, and the saintly Basilios, Bishop of Cappadocia, erected the celebrated Basilios, a very extensive hospital. About that time John of Chrysostomus built a hospital in Constantinople, and later the enormous Orphanotropheion was erected by King Alexius and accommodated 10,000 indigent and sick of all kinds. The Hotel Dieu is perhaps the oldest hospital in Europe now in use, and was founded about A. D. 600 by St. Landry, Bishop of Paris, for all sick and destitute, of whatever age, sex or condition, and has for its motto, *Medicus et Hospes*. This huge hospital extended over and under the Seine and contained several thousand beds and from two to six patients to each bed. It has been compared to a gigantic and ancient oak, rotten at the core, and even the present condition of many of its quarters shows it to be as fit a habitation for the sick as a rotting tree would be for a human being. It is thought, however, that the origin of our present hospitals must be looked for in the monastic arrangements for the care of the sick and indigent. Every monastery had its *infirmaria*, in which not only were sick and convalescents treated, but also the aged, the blind and the otherwise helpless were housed. (Liber ordinis Sancti Victoris Parisiensis, MS. Cap. xl. See Ducanges Glossary, s. v. "Infirmaria.")

About the earliest distinct record of a hospital in England is in the life of Lanfranc, Archbishop of Canterbury, who in 1080 founded two, one for leprosy and one for ordinary diseases. The establishments for the sick remained in the hands of the clergy until the Reformation, when some of the monasteries and church properties were appropriated and set apart for the use of the sick.

The earliest American hospital of any size was the Pennsylvania Hospital of Philadelphia, begun in 1555 under the auspices of Dr. Thomas Bond and Benjamin Franklin, and finished in 1805. Considerable attention has been paid to hospitals in America, especially since their importance was so roughly thrust upon the country's notice in the Civil War of 1861-4.

Leprosy, introduced during the Crusades, and later, the epidemics of cholera and smallpox necessitated special lazarettos. In 1456 the Grand Hospital of Milan opened, and is still in use, with a capacity of 2000 patients.

For centuries the Church of Rome was the only home and protection of Christian religion and the development of hospitals, until the sixteenth century, since when, up to very recently she has resisted all changes in hospitals. Her first idea was to make a hospital a church institution. Add to this idea that of economy and convenience of administration, and take the plan of the Grand Hospital of Milan as a model, and we have the source of our modern block plan and corridor hospitals. This hospital was not to any extent improved upon until science became an important factor in progress and civilization.

War began to influence the establishment of hospitals in the first part of the sixteenth century; but previous to the time of Ambroise Paré (1560) there is no evidence that the surgeon was considered as a necessity or as being of much consequence in military affairs. Italy was the first country to produce writers on military medicine, at the beginning of the thirteenth century. The first military hospital appeared in 1575 at the siege of Metz, through the influence of Ambroise Paré. Thus the spirit of humanity, without the aid of science, did not make proper provisions for sick or wounded soldiers.

Three hundred years later, when science had developed in such proportions as to divide the control of the world with religion itself, we find the experience afforded by the large number of sick and wounded incident to wars to be far the most important influence of all others in bringing about reforms in hospitals. Positive science was established only at the beginning of the eighteenth century, and the practical adaptation of science and inventions was only just fairly begun and curative medicine was hardly in advance of the times of Hippocrates. Sydenham did much in the latter part of this century to influence advances in medical science, and earlier, Hoffman, Beucres and Arbuthnot. The great movement in hospital building took place in the eighteenth century, and Dr. Steele's paper, "On the Mortality of Hospitals," Howard prize essay for 1876, gives a tabulated list of the chief institutions founded during that period.

In 1713 Cardinal de Polignac treated of ventilation, and made use of the laws of physics in giving plans for the construction of fireplaces, and to him is due credit for inventing the first machine for forcing ventilation. His method of heating air before it enters the room, by ducts and chambers behind the fireplaces, is most scientific and ingenious. Desagliers, in 1727, describes a ventilator by drawing out foul air or forcing in fresh, or both successively, without opening doors or windows, the current being established by a number of fans revolving in a circular case—the exact principle of the fan regulator of today, but with the yet common error of taking impure surface air. This was not altogether original with him, but was the application and improvement of the plan proposed by Cardinal de Polignac. It was applied to the House of Commons and used seventy-five years. The most useful hospitals are, and have been, general ones, built upon the pavilion plan, with ample acreage, with wise management, principally under medical officers' control, under whose roofs every medical man is a free, independent and responsible agent, enjoying equal rights with all, as far as consistent with wise general management.

Although hospitals have been intended as a blessing and benefit to the poor, they have too often proved the reverse, on account of the ignorance, on the part of the administrators, of the true principles of health. So much was this the case formerly that it was frequently debated whether hospitals are or are not gigantic evils. In the present state of our knowledge of hospital construction and building hygiene, it would be of no use to consider statistics of mortality, etc., of different times, as former conditions are hardly likely to be met with again. Most instructive lessons can be learned, nevertheless, from these statistics of former times, and it can be gathered that the mortality is pretty generally in the ratio of the size of the hospital, and the consequent aggregation of patients, the crowding together in the wards, the deficiency of ventilation, defective sewerage arrangements and want of constant attention to the details of cleanliness, which latter neglect has especially been a fertile source of hospital disease. Dr. B. W. Richardson has traced out in a very instructive way the remarkable immunity of the Jews from epidemic and other diseases, and has shown that their religious attention to the details of the periodic cleansing enjoined by the Mosaic law appears to be the main cause of this notable circumstance. In these times it may be urged with some reason that, with correct hygienic construction and good management, there is no reason why a large hospital should not be kept in a healthy condition.

The broad general object for which hospitals have been established may be stated to be the gratuitous medical and surgical treatment of the indigent sick. Many abuses, however, creep in, and large numbers of persons yearly receive medical treatment gratuitously, who are quite able to pay for it. To obviate this evil the establishment of paying institutions has been much recommended. There is a large class above the very poor who are but ill able to afford skilled attendance and nursing at their homes. It is not desirable, nor is it always their own wish, that those persons should be objects of charity, and the establishment of hospitals and dispensaries at which they could contribute something toward the expense of their treatment and attendance meets this difficulty to some extent. However, if it is accomplished, it should be done with fairness to all concerned.

A second cardinal principle to be observed in such a hospital, is that it shall do as little harm as possible. The hygienic principles of the even ordinary construction, if employed, are sufficient to insure that no harm by spreading contagious disease is apt to occur; but there is another danger well known, connected with free hospitals and dispensaries, of quite a different kind, namely, the danger of promoting negligence, shiftlessness, laziness and vice by offering free relief from their consequences—the danger of pauperizing people. This is a danger connected with organization and management, and can be guarded against.

MODERN PRIVATE AND SPECIAL HOSPITALS.

It is said, and with reason, of many institutions, that they can show no claim to a separate existence. Some special hospitals there are whose existence is a necessity in the interests of society, and are primarily defensive; some which have come into being in the interest of individuals. Much can be said on both sides concerning the latter, but it is unfortunately a subject which can not be adequately discussed without trenching upon matters of a too personal nature.

CHILDREN'S HOSPITALS.

As regards children's hospitals as separate institutions, there is something to be said for and against. It is not good, it may be said, for children to be treated in the same wards with adult patients, on ethical grounds, because they might see or hear things they ought not, and on administrative grounds, because they can be better cared for if associated with other children only. On the other hand, there seems to be in most children's hospitals an inevitable tendency to the outbreak of infectious fevers, which does not exist when children are treated in the same wards with adults. One cause of this is probably to be traced to visiting days, and the impossibility of exercising any efficient control over the visitors. Another circumstance not remotely connected with the evil is the too close proximity of the out-patient department. In a children's hospital, more than any other, it is a necessity to have an out-patient department. This should be in a separate building. With proper precautions it is possible, if not to abolish entirely, at least to minimize these risks, and with this proviso it should be admitted that special hospitals for children are, if not absolutely necessary, at least eminently useful and beneficent institutions. It is not my purpose in this paper to go into the great subject of other

special hospitals, such as hospitals for military purposes, for railway systems, for consumption and chest diseases, chronic hospitals, institutions for incurables, cancer, paralysis, insanity, lying-in, convalescent, mineral-water, throat, ear and eye, hospitals for diseases of women, stone and fistula, diseases of the skin, etc.

HOSPITALS FOR INFECTIOUS DISEASES.

The primary defensive hospitals deserve serious consideration from all medical men and sanitarians. The fulfillment of the duty of providing suitable hospital accommodations for infectious diseases is a task apparently very little to the taste of sanitary authorities and council health committees, as a rule, particularly when not in any immediate demand; and as a consequence the provision for such hospital accommodation gets shelved from time to time, until an epidemic occurs, when a frantic effort is made to put up a temporary hospital in a few days to cope with the emergency of the moment. Wooden huts or perhaps tents are put up, the epidemic runs its course and dies out, and the town or district returns to its normal health condition. The question of a permanent hospital is then quietly shelved, to reappear only with a recurring outbreak of disease. The great value of a permanent and transportable isolation hospital is that it provides the means of isolating at once the earliest cases of disease, and of thus preventing the epidemic, instead of leaving it to be battled with when it has gotten full sway. This fact is very strongly brought out by Dr. Thorne's "Report on the Use and Influence of Hospitals for Infectious Diseases," which forms the supplement to the "Tenth Annual Report of the Local Government Board of London," 1862. "I could occupy you for hours," says Dr. Thorne of the evidence he has collected, "in telling you instances in which epidemics have evidently been prevented by the isolation of first cases of infectious diseases." On the other hand, of the hastily extemporized hospital put up to meet the demands of a sudden outbreak, Dr. Thorne says: "It is often not ready for occupation until the immediate cause of its erection has passed by; it provides accommodation of a very indifferent sort; it fails, almost without exception, to meet the permanent requirements of the infected district, even when in amount it turns out to be more than the district needs; and thus the object of the hospital as a part of the sanitary defences of that district is often attained in a very imperfect manner and at a needlessly large cost."

The necessity of isolation hospitals for smallpox, cholera and yellow fever is therefore exceedingly clear, and if clear in the case of provincial towns and country places, how much more so must it be in the case of the metropolis! Our health laws do not usually empower the sanitary department to provide hospital accommodation for such persons as, not being paupers, could not be isolated in their own homes without danger to their neighbors. Little children and lodgers, for instance, or tenants of large blocks and hotels would come within this category. The "mother's cottage" plan for diphtheria cases, involving no expense to a city, but which is usually defeated by municipal aldermanic councils, seeks to obviate just this lack of power on the part of the health authorities. In 1871–72, in London, attention was drawn to the behavior of smallpox in the immediate neighborhood of Hamstead Hospital. Following upon this came reports of similar observations with regard to other smallpox hospitals. In 1882 appeared Mr. Poweis' report on the Fulham Smallpox Hospital in the surrounding neighborhood, and in the same year the Royal Commission on Hospitals for Infectious Diseases was appointed. The result of all this inquiry and discussion was an almost general agreement among those most able to judge, that something like a prima facie case had been made out in favor of the view that a smallpox hospital of more than 100 cases was usually a menace to its neighbors within a radius proportionate to the strictness of the local quarantine regulations.

The Ducker or Doecker, improved by Strohmeyer of Konstanz, or Strohmeyer's canvas barracks hospital, if kept on hand by State or municipal authorities, could be put up on very short notice wherever needed, and would seem to solve the problem of hospital needs in unexpected epidemics. They served the purpose admirably in the cholera epidemic at Hamburg in 1892.

The most perfect permanent isolating ward is in the Johns Hopkins Hospital. The essential feature is that the central corridor is freely open to the external air at either end, and rises through the building in a clerestory to the top, the sides of the clerestory being fitted with movable glass louvre windows. The walls of this corridor are practically double, and it is necessary to pass through two doors to get from the corridor into one of the patient's rooms. Each room has a fireplace with a separate chimney-flue, and in the wall is a small closet, in which is a commode containing a chamber utensil, which can be removed from the outside through an opening in the wall without the necessity of entering the patient's room for that purpose. This closet is lined with galvanized iron and has a separate flue exit, in which is an accelerating steam-coil. The door of this closet does not come quite to the floor, and the exit of foul air takes place mainly through the closet and up its special flue, which is of iron. The whole of this closet with its exit flue can be readily cleansed with flame. This arrangement isolates each patient from others and other parts of the hospital.

Perforated floors for heating and ventilation up to four to eight cubic feet per second per bed are employed here, the object also being to have the air pass constantly upward, so that no portion of this air should be rebreathed or come a second time in contact with the patient, thus placing him in the condition of being out of doors in a very gentle current of air.

PLANNING OF PAVILION, BLOCK, CORRIDOR, AND IRREGULAR CONGLOMERATE AND MILITARY HOSPITALS.

This is exhaustively discussed in Burdett's colossal work, "The Hospitals and Asylums of the World." Modern scientific construction can be fully enough indicated by a description of a modern surgical hospital such as many cities have recently been favored with. Doctors have often taken a deep interest in the erection of such a building, and as some of them are often the most famous in their city, and an ordinance or term of gift provides that the plan shall be approved by them, a plan adopted should give a good idea of the present progress in hospital construction, and such a hospital should be interesting as one of the few erected with the design of subserving all the interests of modern scientific achievements, as well as the interests of patients and physicians. It will be

evident that the controlling idea, unhampered by any misapplied notions of benevolence or necessity of economy, was the practical application of sanitary science in treating the sick, well knowing that absurd and mistaken economy has hitherto rendered pious labor and expense in a great measure not only useless, but even fatal and destructive to the very aim and end of the intended purpose. With all these advantages and a clear field, to those unacquainted with the subject in question it may appear a very extraordinary assertion, that there is probably not at present in this country a single hospital constructed throughout upon proper medical principles, excepting perhaps the Johns Hopkins Hospital at Baltimore, which will be memorable for the care and study bestowed upon the consideration of its plans. If we inquire into the cause of such absurdities, they are easily traced to those sources of darkness and ignorance from which most of our civil abuses have originated, but how they should be continued, to disgrace the improvements of more enlightened times, can only be resolved by reflecting on the pride, obstinacy and self-interest which are too generally annexed to ancient errors and ignorance of the subject of hospital construction. The writer has seen interior plans favored *in toto* from a study of a fine black-and-white sketch of a front elevation alone. A hospital built in these days should have fewer objections to its plan than any hospital hitherto constructed, by avoidance of objects of convenience, by avoidance of objects of cheapness or ornament, even though the physicians and architect have generally two very opposite and incompatible views on many points.

CONSIDERATIONS IN PLANNING AND MAKING SPECIFICATIONS FOR A SCIENTIFIC HOSPITAL.

So-called thoroughly fireproof construction is not necessary in hospitals of two stories. The semi-fireproof or slow-burning construction, with solid oak pillars for supports and fireproof stairs and corridors, is, for such buildings, equally safe, as far as danger from fire is concerned, and is much more economic and better adapted to the double system of ventilation, which has proven to be a decided success.

Site.—In selection of a site the following should be considered: Aspect and conformation of ground; nature of soil; area in relation to number of beds; convenience of access for patients, physicians and students; and cost.

The first three questions are of hygiene and the last two of economy. The tendency to subordinate health conditions to those of economy is too often in the ascendant. The healthiness or unhealthiness of a soil is affected by its power of retaining heat and by the level of the ground water, as well as by the actual composition of the ground itself. A high water-level is unhealthy, because it keeps the soil and the air above moist and damp. This can be cured by drainage. Interspaces in the soil above the water-level are filled with air. T. W. Hime shows that the quantity in even very compact gravel amounts to one-third of its bulk. This air is not stationary, but is more or less in constant motion and subject to influence of atmospheric pressure, and unless proper precautions are adopted, is liable to be drawn up into a house by the current induced by the warmer air of the house. Such air is impregnated largely with decaying organic matter when the ground water-level is low, and would be saturated with moisture when it is high; both of which conditions are highly antagonistic to health. A system of soil drainage independent of the sewerage system should be employed to insure suitable dryness of hospital grounds. Even elevated sites must be so drained if the grounds are uneven. (Johns Hopkins Reports, p. 54.)

The soil.—In cities, the soil often consists of the accumulations of refuse of all kinds, many places having been filled in with the contents of dust-bins, garbage carts, etc. Such a soil is obviously an improper one on which to build unless the earth is covered with an impervious stratum of concrete, asphalt or some other equally efficacious pavement. As this precaution is necessary in the purest possible soils in order to prevent the air from the ground being drawn into the house, it becomes an absolute necessity in all sites. This becomes all the more important when we consider the lack of area in relation to the number of beds.

Foundations.—Foundations should have a solid concrete base with lines of drain tiles laid around them. In all buildings having cellars or half basements the outer surface of walls beneath the ground should be sheathed with overlying slates and have horizontal layers of slate the width of the wall at grade or ground level, above which the walls are to be hollow with a two-inch air space, nine inches from the inner surface; this is closed in by two or three courses of brick at the top.

Precautions necessary for a stable foundation belong to the science of building, but it is of equal importance to prevent the moisture in the soil from being drawn up into the walls by capillary attraction. The method of preventing this evil, is as just stated, to interpose between the level of the ground and the lowest floor a layer of asphalt, slates or other impervious substance continuously along the whole length and width of the foundation wall.

Walls.—The proper function of walls is usually assumed to be, in addition to their duties of support, to keep out the air. A wall built in the ordinary way of brick and stone and plaster internally performs this function to a certain extent. The porosity of brick is very great, 3 to 22 per cent., stone less, varying according to the kind. The porosity of plaster is, as is well known, very great.

By covering a brick with wax or enclosing a portion of a brick wall in an air-tight box, Pettenkofer has shown that the force of the breath will drive air through the brick, and will blow out a candle on the other side, if the current of air be collected in a small channel. Most walls therefore act as a filter by intercepting the organic particles carried on the air currents. In a hospital it would seem that the internal linings of the walls, if of a porous nature, must become saturated with the matter floating in the air, and such matter will, in the parts occupied by patients, be very largely composed of organic particles, epithelia, pus-cells, dried sputa and the like.

In the French Academy of Medicine a case was reported in which analysis had been made of the plaster of a hospital wall, and 46 per cent. of organic matter was found (Galton on "Healthy Dwellings"). This being the case it would seem that the most perfect form of wall for hospital wards is one that presents an absolutely impervious surface, capable of being washed down and thoroughly cleansed without its impermeability being affected. Such a wall as this, if it could be obtained, would have the effect

of condensing on its surface the moisture of the air and of so lowering the temperature of the ward. To remedy this a larger supply of air would be necessary than would be the case with walls of ordinary construction in a building of ordinary ventilation.

Glazed bricks and tiles are perfectly impervious, but do not make a satisfactory wall surface on account of the numerous joints which have to be made of some more or less absorbable cement. Whatever wall surface is adopted, it is of equal necessity to avoid all angles where the air is liable to stagnate. For this reason it is usual to pitch the ceiling toward the center and then to round the angles forward at the junction of wall with ceiling and wall with floor and the vertical angles of the walls. This also has the advantage of facilitating the process of cleansing. The tint of the finishing internal coat, if paint, or whatever material may be used, should be selected with special reference to its effects upon the eyes; and in selecting the window curtains the same considerations should determine their color.

Wall paint.—"Ripolin," made in Holland by the firm of Lindenberg, Jun & Co., also furnished in Berlin from No. 235 Friedrich Str., is recommended by the Berlin authorities and used by the Das Neue Krankenhaus der Stadt Berlin am Urban, built in 1893. Its advantage over oil paints is that it is neither affected by acid or alkalin fluids, is perfectly waterproof and is not brittle or tearable (*rissig*). It dries in ten to twelve hours after applying. It was also tried on the iron work, beds, etc., with good results. It is dearer than oil paint, but more durable and stronger.

Floors.—Floors of the wards, operating rooms, etc., should be a solid and fireproof surface. Infinitely superior to floor boards of even teak or oak, is a floor of solid oak or teak—that muscle of nature as it is called in Burmah—parquet, laid on the surface of cement or concrete. Such a floor, if properly laid and of well-seasoned wood, forms, when wax-polished or paraffined, a practically impervious, solid and fireproof surface. Paraffin in the solid state is melted and painted over the wood, forced into the pores with a hot iron and then polished with a stiff brush. It is very easily kept clean, and needs to be occasionally brightened up with a moist cloth. Next to such a floor is to be preferred the marmor-terrazzo, now in much general use abroad, and recently in this country. The only disadvantage of terrazzo is a tendency to cracks, which must be repaired with cement. Examinations for bacteria in the dust found in these crevices were negative, all having been killed or rendered inert by the antiseptic solutions used in flushing; but one staphylococcus colony was found. This should, for purposes of cleanliness, wear, appearance and cost, be used for kitchen, laundry, morgue and generally in all floor spaces where the objectionable and disagreeable asphalt often creeps in. In all floors, of whatsoever material, the angle between the floor and the wall should be rounded to a radius of not less than two inches. Where walls are of glazed brick this can be best effected by means of a specially-made, hollow molded brick; where of oak or other wood, a hollowed fillet of the wood answers best, and where marble, cement, terrazzo or asphalt joins a plastered wall, the rounding is best formed in the material of which the floor is made. It should be a fixed and essential rule that in all details of joiner's work, no mouldings involving sunken recesses or grooves should be permitted, and that all angles in which dirt can lodge should be abolished. Every opportunity for the lodgment of dirt means so much added danger of septic poisoning, and no consideration of ornament or even beauty should be suffered to weigh for a moment against this imperative rule.

Windows.—In the construction of windows in exposed situations the value of double glazing must be sufficiently recognized. Two sheets of a thinner glass than would ordinarily be used, with an air space of perhaps three-quarters of an inch between them, makes a most effectual non-conducting surface by incurring a slightly increased cost. In such sashes the space must be made perfectly air-tight.

Doors.—In the construction of doors and the linings and architraves pertaining thereto, the same rule should apply as to minor details. All doorways into wards, or bedrooms, or bathrooms, should be made sufficiently wide, forty-two inches, to allow of a bed being wheeled through, and that these doorways should be without thresholds goes without saying. The linen room should above all things be spacious, provided with abundant air and light from an outside window, together with ample ventilation and artificial heat, and have washable walls. Light, it has been said, is the greatest enemy of hygienic crimes.

Ventilation and warming.—In approaching this great subject, one of the first things to be considered after the bacteriology of the air, is floor space, which should be 100 square feet per bed. A distance of less than eight feet between centers of beds is undesirable; and the second thing is that with 100 square feet of floor space, and the ceiling about 12 feet high, over 1000 cubic feet per bed is secured.

Cubic space supplied vertically has no advantage to the patient, but a minimum of 100 square feet floor space is necessary. Little or nothing is to be gained by raising the ceiling; it has been found that 12 feet is practically enough. The experiments of Drs. Cowles and Wood of Boston (see Report of State Board of Health of Massachusetts, 1879) show that above 12 feet there is little or no movement of air except toward the outlet ventilator, and that the space above is of little value as ventilation space. This teaches that whatever be the height of wards, the windows should reach to the ceiling, whether the ventilators are in the ceiling or top of side walls or not.

This subject of ventilation is one in regard to which much has been written, but about which there is apparently little chance of any general agreement being reached.

Warming is a subject so closely connected with artificial ventilation that it forms indeed an integral part and can not be considered separately. It is of the direct or indirect varieties, of which the indirect seems preferable. Whatever system used should have the automatic heat-regulating apparatus. The ancient idea of floor heating, which can be seen today in the Baths of Caracalla, is carried out to perfection in the great Hamburg Eppendorf Hospital. Technic description in Curschmann's or Ruppel's monographs.

The authorities, nevertheless, are practically agreed upon the fundamental principles which should determine the quantity and quality of air to be supplied, the temperature it is to be supplied at, and the rate at which the air is to be changed, almost as much as they are upon the necessity for ventilation itself. Ventilation resolves itself into two systems: 1, natural, i. e., unaided by mechanic contrivances; 2, arti-

ficial or forced ventilation. The natural system depends then upon the ordinary means of windows, aided by smoke flues from grates, etc.

Artificial or forced ventilation is arranged in two ways: 1, either air is forced into the ward, or, 2, vitiated air can be drawn out. The first system is known as ventilation by propulsion, and the second as ventilation by extraction. These two artificial systems were established at the Lariboisiere, Paris, one side of the hospital being ventilated by propulsion, the other side by extraction, the air in both instances being taken as far as possible from the ground by means of tall shafts. The terms of this comparative experiment provided for a mean temperature of 16 to 18 degrees C. (61 to 64.5 F.), and that the air-supply per bed should be at the rate of 50 cubic meters (2119 feet) per hour. In one system steam-fan power was used; in the other hot water coils in the exit shaft. Result of comparison was greatly in favor of propulsion, because it supplied 3178 feet per bed per hour, while by extraction it was but 1059 feet. A comparison of cost, however, showed the former almost three times more expensive than the latter, and this, when run in connection with the modern automatic heat regulator, which must be kept constantly in motion winter and summer, about doubles the expense again.

Johns Hopkins system.—This ventilating and heating arrangement, which should be understood by all, is by a double system of outlets, one in the floor and one in the ceiling, and the object is that the floor outlets may be used in winter or cold weather for the purpose of economizing heat, while in summer both sets may be fully opened. In the Johns Hopkins system, which has proved to be a perfect success, it has been found that in winter the accelerating coils in the main exit shaft are not usually needed, but it is found that whenever the temperature of the external air is 60 degrees F. or higher, especially if there is little or no wind going, these coils are useful. All pipes, wires, etc., for heating, lighting and drainage, are in tunnels, always open to inspection.

Foul-air flues placed in the outer walls of hospitals of two or more stories, often prove unsatisfactory in cold weather, when they are most needed, because the current in these flues is checked by the chilling of their walls.

One cubic foot of fresh air per second per person by this system is easily obtained, with the possibility of doubling this supply for a short time in flushing out the ward.

In wards designed for cases giving rise to offensive odors, or in which a large amount of organic matter is thrown off, or in which for other reasons a large amount of air is desirable, the air-supply is fixed at 2 cubic feet per second per head. Finally, a few rooms in the isolating ward are arranged with perforated floors for an air-supply of 4 cubic feet per second per head, with a capacity for doubling this if desired. All registers and flues for fresh air are of such sizes as to permit the passage of the requisite amount of air with a velocity not exceeding 1½ feet per second under ordinary circumstances. Air-currents of this velocity of from 70 to 75 degrees F. are barely perceptible to the hand and create no discomfort.

In the isolation wards perforated floors are employed for heating and ventilating, and supply from 4 to 6 cubic feet of air per second per bed, the object being also to have the air pass constantly upward, so that no portion of this air shall be rebreathed or come a second time in contact with the patient. This places him in the condition of being out of doors in a very gentle current of air.

Sewage disposal and house drainage.—At the Johns Hopkins Hospital all soil pipe was delivered on the grounds as it came from the foundry, without being tarred or painted. It was then tested by passing through each length or section a swab dipped in a mixture of linseed oil and red lead. The slightest defect in the casting was indicated by the appearance of an oily stain on the external surface of the pipe. After passing this test the pipes were painted with red lead. All pipes are so placed as to be readily accessible and freely exposed to view. Where the sewage does not drain into large bodies of water, it should be temporarily led to wells of from 70 to 80 feet in depth if possible, until a system of sewerage is established.

Water-closets must be disconnected from wards by intervening lobbies and be perfectly ventilated. The mechanism for supplying water must be as simple in construction, as strong, and as nearly self-acting as possible. A three-gallon flush should be the minimum at a minimum height of six feet above the basin, and a pipe of 1½ inches internal diameter will fulfill the required conditions. It would be better to have the flushing apparatus entirely automatic, if the mechanism was not as a rule too complicated to stand the rough usage of hospital wear. It remains therefore to put it out of the power of the user of the closet to modify the amount of the flush, and this can only be done by so regulating the apparatus, if not automatic, that by one pull of the lever or chain that works the valve the whole of the contents of the flushing cistern are discharged. Basin and trap should be of the simplest form and entirely of white enamel, and the traps properly ventilated through the roof. Those forms which have the trap immediately under the basin are preferable to those in which there is a double bond, because in the latter the water has double work to do, and its force therefore is reduced one-half. In number, the water-closets are reckoned usually as one to every ten or twelve beds, but this is not a hard and fast rule. In close proximity to the closets should be a separate space enclosed for the slop sink, with provision for keeping bed-pans, brooms, etc., and here also should be a cupboard, ventilated to the whole extent of its external or wall side into the outer air, in which to keep feces, etc., required for examination by the medical staff. This hospital slop sink requires special care. The operation of emptying and cleaning bed-pans is one involving no light risk to the nurse, and necessitates most scrupulous care on her part. This risk is a positive danger when typhoid excreta have to be dealt with. The ordinary form is a large glazed porcelain receptacle into which pans are placed and water turned into them from a tap above, and it is practically impossible to prevent splashing. This is obviated by the "McHardy sink," King's College, London; a modification of which was invented independently by the writer, and is easily adapted to an ordinary deep, rim-flush sink.

Baths and lavatories.—Although, for convenience and economy of plumbing details, baths and lavatories are frequently placed with closets, there is no necessity, as in the case of closets, of interposing a disconnecting lobby between a bathroom and a ward. Bathtubs themselves should be placed in the center of the room, or away from the walls, and not enclosed

in any way, and surrounded by movable floor slats or lattice wooden standing boards, to prevent the attendant's feet from becoming wet while administering a bath.

Lighting.—The electric system involves no demand on the oxygen of the air to support combustion, nor does it contribute in the slightest to the vitiation of the air, on the other hand gas does both these things, and then again, electric lighting is infinitely more convenient, safer and less trying to the eyes.

Water-supply.—The importance of the purity and abundance of the water-supply is so well understood, that filters should be put in whenever there is the slightest suspicion of the quality of the water. Large filters of the Loomis patent, which are iron cylinders 6 feet high and 2 feet in diameter nearly filled with clean sand, were in use at the Johns Hopkins Hospital, and the straining effect of these filters is shown by bacteriologic examinations of the water. Before filtration the water contained an average of 39 micro-organisms per cubic centimeter; after filtration the average number found was 5 per cubic centimeter. At intervals of about twenty-four hours, the direction of the current is reversed and the accumulated impurities are washed out into the street. These filters permit the passage of an ample supply of water for ordinary use but greatly obstruct a free supply which would be requisite in case of a fire, hence a by-pass around them is arranged, so that in case of necessity the steam pump can draw directly from the main. This steam pump is connected to force water into large tanks placed in the attic of the largest building. These tanks are intended both to contain a reserve supply for use in case of temporary interruption of the supply from the street main, owing to breakage, etc., and to give additional head or force when the pressure in the street mains is lowered from any cause.

Operation house.—Post-operation wound-infection, not the fault of the operator and assistants, is now understood to be an extremely rare occurrence. The status of surgery to-day rests upon aseptic technic as much as upon the skill and judgment of the surgeon, and a rigid scrutiny of the technic employed in an operation followed by septic infection will almost always show the error of omission or commission to account for it.

There should be three operating rooms: one for a surgeon's dressing room, one for instruments and sterilizations, and one for preparation of patients. If not in a separate house, they should be placed as far as possible from aerial contact with wards or other parts of the hospital. Thirty by forty feet is not found to be any too large for an operating room. All the angles should be rounded, and the window frames flush with the inner surface of walls. Fixed furniture, pipes, tops of sinks and other fittings should clear the wall by at least one inch. The whole of the room and all its contents should be of material that can be freely washed with water and hence must be constructed from aseptible patterns. Lavatory and sink tops should be of glass, also all shelving for dressing, instruments, etc. When a part of the hospital building, there should be a lobby between ward corridors and operating room, which should have double swinging doors so far apart that one set must be let go before the other can be opened. Every detail in the operating room is to be devised with a special view to its aseptic necessities. Everything of an absorbent nature is to be eliminated; this should be easy of accomplishment and simple enough where the room is intended for operation only. The floor should be finished with a slight fall to a point near the wall where an iron pipe passes through the floor and is connected to a lead pipe on the outside, which in its turn discharges over an open trap. This iron pipe is to be enameled white inside, with a gun-metal plug made flush with the opening in the floor and connecting pipe. Around the walls at the floor line is a marble or glass skirting hollowed out to a radius of $2\frac{3}{4}$ inches; above this the walls are lined with marble or glass to a height of five feet above the marble or glass, and flush with it.

The wall should be finished with impermeable cement and the walls and ceilings made in the form of a vault with pitched glass roof and horizontal glass ceiling, leaving an intermediate space through which a ventilator leads out from the ceiling into the open air.

A north window should furnish the principal light and be formed of one sheet of plate glass, 10 or 12 feet by 8 feet, fitted in a wrought iron frame, flush with marble or glass and wall. Other windows should be constructed in a similar manner, but made to open for purposes of ventilation.

Doors should be made of two leaves of white enameled sheet iron in a wrought iron frame, and on the inside flush with the walls. Ventilation at floor surface for winter use. Light, electricity.

The important end to be kept in view is that every part shall be impervious, readily cleaned and easily seen.

The ideal practical operation room —Besides incorporating the above features it would be better if the large window with the north light extended four feet from the floor to the ceiling; as large a skylight as possible, and a marmor-terrazzo, or better, a teak parquet floor. The room should have two 100-candle-power electric lights, with an arrangement allowing of any angle of reflection, and also two portable incandescent lamps with flexible connections so they can be brought close to any part of the operating tables. Electric connections should be furnished to one or two sides of the room for wires for galvano-caustic instruments, electrolytic work and ordinary galvanic and faradic currents.

Operating table and floor should not be in any way connected with the general drainage system of the building, if there is the slightest doubt of its perfection; the bowls and sinks should then discharge into vessels which can be removed. One fixed operating table should be provided with steam heat. There should be an apparatus for a large, constant supply of sterilized water, first filtered through diatome cylinders, which is piped to the wash basins, the operating table and irrigators, the water in the wash bowls to be turned on by the foot on a pedal, through a gooseneck vent or spray. This supply of water is to be furnished at a constant temperature of about 130 degrees F., and the entire mechanism of filtering, boiling each drop, carrying it to the germ-proof reservoir, where it is maintained at the uniform temperature desired, to be entirely automatic and self-regulating. Such an apparatus is practical, and is even already realized through the inventive genius of a hospital surgeon.

The furniture of the room, as well as the parts of the hospital devoted to patients, is best described by what is known as aseptic hospital furniture, and is made of white enameled wrought iron and glass. This ideal room should have anterooms, with lavatories and baths for patients and surgeons.

It is thought that a few attractive tablets containing bacteriologically exact instructions for cleansing instruments, surgeons' and nurses' hands and the patient himself, as well as everything to be used in an operation, might not be out of place as proper articles of furniture in such an operation room, such as complete instructions in short separate chapters on:

1. Preparation of patient.
2. Preparation of surgeon, assistants and nurses.
3. Preparation of instruments.
4. Preparation of ligatures, sponges, towels, sheets and dressings.
5. Preparation of operating room.
6. The anesthetist.

The tablets should be printed and posted in a conspicuous place in the preparation room at least, and it would then remain necessary to have in the operating room itself, in quite brilliant characters, perhaps emblazoned on the walls, the two following summary operation room laws:

After the hands to the elbow are prepared in the manner prescribed they should never touch anything except the instruments or ligatures, the sponges or the wound, or the cleansing must be repeated.

From the time everything is in readiness until the wound is dressed, nothing is to be disturbed in the room, and any instrument, sponge or suture which has touched anything not protected by aseptic towels is discarded for the entire operation.

The detention house.—This department is mentioned merely to insist that it is an absolute necessity in all hospitals of any size. The need of properly built strong rooms for the care of violent and maniacal patients is too well known to require any argument in its favor. Windows must be built far above the reach of patients, and the floor-and-wall system of heating used.

Disinfecting room or house.—Of paramount necessity in all hospitals is a large, general disinfecting apparatus of some kind, both for the purpose of destroying vermin in clothes, and for disinfecting bedding, etc., after cases of infectious disease. Present knowledge of the subject is that the only trustworthy process, aside from destruction by fire, is the application of steam under pressure, aided and supplemented by dry hot air or formol gas. The great value of steam under pressure is its penetrative power, and the failure of dry heat disinfectors was due to their want of this property.

The fundamental doctrines established by R. Koch and Wolfhügel (*Mitth. a. d. Kais. Ges.-Amte.* Bd. i, 1881) have conclusively proved that dry air is an almost useless disinfection method; because a three-hours exposure to 140 degrees C. is necessary to kill all the known germs, and at that temperature nearly every material subjected to such ordeal is severely damaged. Far more thorough than dry hot air in its influence upon germs is the hot steam. The conclusive and final researches of R. Koch, Gaffky and Loeffler have proven that in the low pressure 100 degrees C. steam is the most convenient and most easily applied disinfector, which for certainty of result is not to be compared with any method that we have yet learned.

The most imperishable disease germs with which we are acquainted are the spores of anthrax bacillus, as Esmarch has shown (*Zeitschr. Hyg.*, 1888), which have greater or lesser resistance according to the surrounding material, or material in which they are imbedded. The most persistent of these anthrax bacilli spores, according to numerous experiments by Esmarch, survive an exposure of twelve minutes to steam of 100 degrees C.; the majority of the spores perish in five minutes. In the steam current we have therefore, for all practical purposes, a sufficiently absolutely reliable method of disinfection (Carl Günther). In all permanent hospitals steam is usually available at any time.

The difference between the two heat agents may be best illustrated by two examples taken from Dr. Parson's "Report on Disinfection by Heat." (Fourteenth Annual Report Local Government Board for 1884, *Sanitary Record and Local Government Review*, London, Sept. 29, 1894.) Spores of bacillus anthracis required for destruction four hours' exposure to dry heat at 220 F., but were destroyed by five minutes' exposure to a heat of 212 F. in steam or boiling water. Bacteria not containing spores are destroyed by dry heat in about two hours at a temperature of 212 F., and three hours at 212 F. are required to destroy the fertility of their spores. In any case it is not desirable to exceed a temperature of 240 or 250 degrees, as this is too high for woolen fabrics.

Moist heat, like hot water, is the best germicide. The thermal death-point of surgical bacteria, which practically means pyogenic cocci, and which are not spore-bearing, and the bacillus of tuberculosis and their spores is correspondingly low, when they are exposed to moist heat. The pyogenic cocci are all killed inside of ten minutes at 150 F., while the tubercle bacilli and their spores are destroyed in five minutes at a temperature of 212 F. Boiling for five minutes at a temperature of 212 F. seems, therefore, sufficient for all practical purposes Steam acts like hot water of the same temperature, and when disinfection on a large scale is desired, it can be used where hot water is not practicable. The germicidal property of steam depends upon its moisture and on the expulsion of air contained in the articles to be sterilized. It is used at a boiling temperature or even greater. All known pathogenic bacteria and their spores are destroyed in low steam at 212 F. maintained for five minutes. No spores are capable of germination if a high-pressure steam temperature of 230 F. is reached. (Red potato bacillus, Globig, *Zeitschrift f. Hygiene, Bd.* iii, 1887.) An efficient apparatus should provide means for subjecting the articles to be disinfected to actual contact with an overhead streaming steam, which expels every particle of air from top to bottom, while the apparatus is getting heated; and then the removal of vapor by a new filling of the disinfector with air from below upward before the steam can condense sufficiently to injure the articles disinfected. Such an apparatus should be provided with means of automatically shutting off steam if the temperature should exceed a certain point. Whatever form of apparatus be adopted, it should always be provided with two doors, one for ingress in one room, the other for egress in another room; the rooms being divided by a solid wall. The test of the large Reck apparatus built upon these principles, as well as the smaller Boeckmann sterilizer, show them to be scientifically perfect and efficient. (A. B. Reck, Copenhagen, Denmark; Edward Boeckmann, St. Paul, Minn.)

Disinfection by formaldehyde gas is the most recent method, and probably one of the most efficacious and economic known. The following letter indi-

cates sufficiently the manner of applying this agent for hospital purposes:

BARNES HOSPITAL, U. S. SOLDIERS' HOME,
WASHINGTON, D. C., Nov. 3, 1898.

To the Surgeon General, U. S. Army, Washington, D.C.:

Sir:—In compliance with your instructions I have the honor to submit the following account of the methods and appliances used at the field hospital, Camp Wikoff, for sterilizing articles of bedding, clothing, etc., with formol or formaldehyde gas. The generator used was obtained from Kny-Schreerer Co., and is designated as High "C" Formol Gas Generator No. 2. Wood spirit was used for the lamp, and gas generated from a mixture of formalin (40 per cent.) 1,000, calcium chlorid 200, and water 400 parts, with which the cylinder is to be charged.

A convenient wooden structure was erected, 10 x 12 feet, ten feet to the plate. The frame was scantling, 2 x 4 inches. This was first covered, floor, sides and roof, with tongue-and-grooved boards, and over this was placed a layer of tar paper and another layer of tongue-and-grooved boards at right angles with the first. No window is needed. The batten door was made double, and lined like the sides. It must be carefully fitted and hung to open outward. This tightly constructed room was provided with hooks and cords for the suspension of articles to be sterilized. A room, 10 x 12 feet, is large enough for use of a hospital with 100 beds or more. Adjoining this sterilizer chamber was a small chamber, 5 x 6 feet, to contain the generator and chemic materials, as shown in the accompanying ground plan and side elevation. The gas was introduced through two small perforations in the wall of the sterilizing chamber, into which the tubes from the generator were inserted. One charge of 128 ounces is sufficient for a room of the size above mentioned. The soiled articles are sent at once to this room, and when a sufficient number has accumulated, the generator is to be started and the gas turned on. A few hours is sufficient. It is convenient to sterilize at night, filling the room with gas in the evening and leaving it closed until morning.

Very respectfully, your obedient servant,
(Signed) W. H. FORWOOD,
Col., Asst. Surg.-Gen. U. S. A.

Necropsy, laboratories and museum.—In these times no hospital would be complete without facilities for the scientific study of, and experimentation in, disease. These necessary departments should be together in a separate building and include a crematory. In large hospitals a chapel for religious exercises can also be incorporated in this building.

The technic of building and fitting up these departments is so exhaustively set forth in Ruppel's great work that it is only necessary to refer to its pages.

Kitchen, laundry, boiler and bath house.—This paper has long since outgrown its proposed length, but strange as it may seem, it is necessary to mention these departments, to insist that they be incorporated in a building or buildings entirely separate from the hospital proper. It is not within the province of this article to describe these parts of the economy of a hospital in detail, but it can not be dismissed without enumerating at least the necessary contents of the culinary department:

1, a gas roasting-oven; 2, a gas hot plate fitted with grill for grilling; 3, a steaming-closet for potatoes and fish; 4, steam-jacketed coppers for beef tea and broth and for broiling meat; 5, a steam-heated "hot closet;" 6, a steam-heated carving table; 7, a steam-heated cylinder for boiling water; 8, a scalding apparatus for milk and scullery purposes; 9, two or three sinks for washing vegetables and crockery (one of porcelain for green vegetables), all provided with hot and cold water, and so arranged that the water can be kept constantly running when the sink is full. It must be possible to empty each sink rapidly and completely. Flooring should be of marmor-terrazzo, or of some impervious material.

Hospital furniture.—This subject can be briefly disposed of here by merely mentioning the modern aseptible hospital furniture made entirely of white enameled iron and glass. Hall floors and stairs should be covered by rubber matting, one meter in width, in long strips, with reinforced corners. This makes the hospital practically noiseless, there is no dust, and the matting can be cleansed and disinfected by water and antiseptic solutions.

Shutes or flues for dirty linen are things to be avoided; they rapidly become foul and serve as shafts for conveyance of polluted air from one part of the building to another. For bed or body linen that is fouled there should always be in every ward a basket or light box with handles, lined with iron or zinc, to convey linen to the laundry; the receptacle to be properly cleaned and disinfected before being sent back to the ward.

Management.—More than nine-tenths of all that can be found written on hospitals in this article, as well as all others, is mainly about their construction, and most writings have appeared since Miss Nightingale's "Notes on Hospitals" and "Notes on Nursing" (1858), results of her labors in hospitals during the Crimean War. Many times the results of carelessness and of unwise and fraudulent management, poor or untrained nurses, etc., seen in hospitalism or hospital diseases, have no doubt been unjustly attributed to faulty construction. Those who have served on the staffs of large pauper hospitals have had excellent opportunities of observing bad effects of poor nursing in newly-constructed wards, and vice versa, the good effects of good nursing in defectively-constructed and equipped wards. A well-managed, poorly-constructed hospital will give a far better result than a finely-constructed hospital with bad management. Badly constructed and managed hospitals will be built, and the causes of diseases will continue to create preventable diseases just so long as doctors leave these matters to business men, politicians and their architects, especially when the latter happen to be amateur ventilators and sanitarians. Such institutions are always liable to cause hospital diseases and become centers of infection; thus defeating the very object they are intended to promote.

PROBLEM OF THE MUNICIPAL GENERAL HOSPITAL OF THE FUTURE.

The future, centrally-located general city hospital, built upon the ground area limited by the great property values of such locations, should engage the attention and study of physicians and the modern scientific and hygienic builders. With our present knowledge of fireproof (from the inside) construction, of relative purity of air strata, diffusion of gases, ventilation and warming, together with interior finish to the remotest detail in what is called hospital construction, and with aseptible furniture, why should we not advocate the erection of double-floored, fire-proofed hospitals of an indefinite number of stories. Such a hospital could harbor every class of sick, and it could be argued that the higher the floor the more hygienic the conditions. Isolation of departments could be perfected by the properly arranged system of elevators and outside stairs and the economy of the building and its various departments could by the same means, as well as special diet kitchens, be aerially disconnected from the wards proper and from each other. Safety from external

fire could be secured by sufficient space about the building, and quiet is assured in the noisiest neighborhood by properly constructed walls and elevation.

This proposition is suggestive only, but there is no good reason why it could not be worked out. The essence of the plan is in the isolation of the wards from the rest of the hospital and from each other. The extreme limit of isolation can be reached here as in some modern foreign hospitals where connecting corridors are abolished altogether and the pavilions are confined to one story. The special form of plan for such a hospital would be determined entirely by the area, conformation and shape of the site.

BIBLIOGRAPHY.

The Hospitals and Asylums of the World, Burdett.
Johns Hopkins Hospital, John S. Billings.
Johns Hopkins Hospital, five essays on.
Mittheilungen über das neue allgemeine, Krankenhaus zu Hamburg-Eppendorf, Dr. H. Curschmann.
Deutsche Medicinische Wochenschrift, No. 36, 1895.
Policlinico zu Rom.
Zeitschrift für Hygiene.
Galton on Healthy Dwellings.
Einführung in das Studium der Bacteriologie, Carl Günther.
Reports of Local Government Board, London, September, 1893.
Third and Fourth Annual Proceedings of the Association of Military Surgeons of the United States.
Medical and Surgical History of the War of the Rebellion.
Anlage u. Bau der Krankenhäuser, nach hygienisch-technischen Grundsätzen, von F. Ruppel, Bauinspector in Hamburg.
Das neue Krankenhaüs Der Stadt Berlin am Urban, 1893.
Hospitals, Their History, Organization and Construction—Prize Essay, W. Gill Wylie, M.D., 1876.
Hospitals and Asylums of the World, Dr. John Jones, New York, 1775.
Hygienische Rundschaü, Carl Frankel ü Erwin von Esmarch.

GONORRHEA IN WOMEN.

Read before the Mississippi Valley Medical Association, at Nashville, Tenn., Oct. 11-16, 1896.

BY JOSEPH RILUS EASTMAN, M.D.

INDIANAPOLIS, IND.

There is no malady to which womankind is liable that should engage more consideration than gonorrhea. Strewn in the train of its ubiquitous and wily germ are pathologic ravages of surpassing import in their clinical and moral consequences, yet hardly recognized or understood. Sinclair, a decade ago, observed a strange indifference toward differential diagnosis of gonorrhea in the female, and even now, when, in the light of recent bacteriology, it is easily possible to demonstrate the gonococcus in the act of pathologic mischief, there exists a notable, if not notorious, tendency on the part of the most general practitioners, and some specialists, to disregard discriminating diagnosis in doubtful cases.

The diagnosis of acute gonorrhea in women is comparatively easy, even without the microscope. What with a history of impure coitus, free purulent secretion from vulva, vagina and urethra, intertrigo, burning on micturition, and vesical tenesmus, the diagnosis is not far to seek. Upon inspection one usually detects a discharge of tenacious pus; or greenish or yellowish streaks upon the linen may alone be in evidence. Erosion may be present upon the skin, upon the labia majora or in the inguinal and gluteal folds. The labia minora, the clitoris and its prepuce, and the hymen, if present, are red and swollen. The meatus urinarius is found to be congested and ectropic, its normal pink color being changed to a deep red. The mouths of the ducts of the Bartholinian vulvovaginal glands are deeper in color, gaping and tender. They discharge, instead of their normal glycerin-like secretion, pus-laden mucus. A small area of mucosa immediately about these openings exhibits a purplish-red tint. The surface of the vagina proper presents no great changes, the adult vaginal mucosa being practically uninfluenced by the presence of the gonococcus; not for the reason generally presented, viz., that the germ can not exist upon flat epithelium, but more probably because, as Doederlein has pointed out, of an acid enviroment and the presence of the vaginal bacillus.

It is certain beyond cavil that the gonococcus can grow fat upon flat epithelium. Rosinski reported five cases of gonorrhea of the mucous membrane in the mouth in the new-born; and specific vaginitis of children is by no means rare. It occurs so often in plural instances among the children of the same household in Germany that the term *glückliche familie* has obtained currency as a technic expression of the craft. The so-called "happy family" is one in which the father, mother and all the children are simultaneously ill with clap. It may, moreover, be adduced as proof that the gonococcus is able to penetrate flat epithelium that pieces of vaginal mucosa removed by the curette have been repeatedly discovered to contain gonococci. As a rule, however, the only gross pathologic lesions detectable in the vagina are minute angry red spots emitting a drab-colored secretion. These are the follicles. If the discharge from the uterus has been great, the stagnant secretions behind the hymen irritate the vagina perhaps, to the extent that it becomes reddened, or loses its epithelium and becomes eroded. Upon introducing the speculum we may discover that the portio vaginalis is reddened and secreting pus, which, collecting posteriorly in the vaginal vault, produces erosion.

After a time—usually about a week—the inflammation spreads to the uterus and is here announced by symptoms of pain and marked tenderness in that organ, with fever and a purulent discharge from the cavum uteri. Having rested for a time upon the comfortably arranged rugæ of the cervix, the gonococci, if unapprehended, wander about into the tubes, ovaries and parametria. There may appear in women the symptoms of cystitis, ureteritis, blenorrhagic rheumatism and endocarditis, but to dwell upon these complications would be to drift beyond the limitations of a short paper.

The relative value of the microscope in diagnosing gonorrhea in females is uncertain. Saenger and Broese ascribe to it very small worth, since in many cases the gonococci are not to be found, and since on the other hand observation of the clinical symptoms often establishes the diagnosis without bacteriologic examination. Contrary to the views of these men are the *ex cathedra dicta* of Neisser, which declare the proof of the presence of the gonococcus by the three classic tests of Koch to be absolutely essential. Certainly in doubtful cases the microscope offers substantial aid. When once the gonococcus is isolated on the slide, the examiner is certain of his ground. It is not necessary to postpone treatment until the diagnosis is complete. Therapy may at once be aimed at gonorrhea, and if one errs it will be upon the side of safety.

A comprehensive examination of the discharge is not complete until the secretions of the urethra, Skene's lacunæ, the glands of Bartholin, the vagina and the cervix have been searched through; and in chronic cases several preparations should be made from each of these. It may appear that this would consume much time, but it may be said with truth that the reliability of the diagnosis *cæteris paribus* will bear a direct ratio to the amount of time and patience invested. The culture of the gonococcus

and inoculation, as upon the conjunctiva or urethra of dogs, consume still more time, are fraught with many perplexities, and present the same uncertainties as the microscopic test.

Before each act of removing discharge for examination the vulva and the vestibule should be rinsed with warm, sterile water and dried with cotton pledgets. The secretion of the urethral mucosa, this being the germ's favorite habitat, is generally sought first. The universal method of securing it is by milking the tract with the finger in the vagina, stroking gently from the vesical opening to the orificium externum. If specific urethritis without discharge be present, nitrate of silver will generally bring the diplococci from the deeper layers. The urethra being emptied, any secretion present in Skene's glands may be evacuated by stroking with two fingers astraddle the urethra. The vulvovaginal glands will evacuate their discharge if compressed between the thumb and forefinger.

To secure unmixed gonorrheal pus from the cervix uteri, care should be taken that the platinum wire does not come into contact with the vagina or portio. It is best to first rinse and then dry the vagina with cotton to free it of mucus. The material once deposited upon the slide is fixed after the universal method of Koch.

The gonococcus takes up the ordinary aniline stains so greedily that a simple aqueous solution of methylene blue is all that is needed for routine use. The coloring is simple, distinct and intensive. However, in the case of preparations which are taken from chronic gonorrheal conditions in which blood, mucus, pus, epithelium and bacteria in great variety may be expected to present themselves, it is desirable to employ a method by which it is possible to differentiate at least the tissue elements from germs.

A method which meets every requirement is that of Ludwig Pick. Pick's solution may be prepared by mixing fifteen drops of Ziehl's carbol fuchsin and eight drops of concentrated alcoholic methylene blue solution, with twenty c.c. of distilled sterile water. After staining for ten seconds and rinsing with water, the slide is ready for examination. The gonococcus is stained a deep blue, all other bacteria light blue, cell nuclei still lighter blue, and the protoplasm and mucus pink.

In preparations of acute gonorrhea we expect to find fresh and disintegrated pus corpuscles, more or less epithelium, and large gonococci lying in groups within and without the cells. It is not to be assumed that because the bacteria are intracellular, they are therefore gonococci, for it is certain that other diplococci than those of gonorrhea lie within the cell protoplasm. Moreover, the writer has seen preparations in which the unmistakable gonococci lay altogether without the cells. The most distinguishing *characteristica* of the gonococcus as stained by the Pick method, according to Broese and Schiller, are the deep blue color, the biscuit or coffee-bean form, and their superior size. The gonococcus is an exceedingly large diplococcus, averaging one and one-half micromillimeters in length and three-fourths micromillimeter in breadth.

In preparations from chronic urethritis, one finds epithelium in abundance, few pus-cells, and sometimes gonococci. These latter appear usually, however, only after coitus or after the application of an irritant to the mucosa. The discharges from acute urethritis and Bartholinitis, are found to contain gonococci in almost every case, and it has become almost justifiable to assume a priori that acute inflammations of these structures are gonorrheal in origin; likewise inflammation of Skene's glands is very apt to be specific. It is impossible, however, to determine the bacteriologic etiology of a cervical discharge by its color, consistence or profuseness.

It is here that one experiences the greatest surprises. Today one finds almost pure pus, practically no epithelium, no gonococci, and very few germs of any kind; and after a week or so, in an innocent looking glycerin-like discharge may appear beautiful gonococci, with very few pus corpuscles and much mucus.

It will be concluded after many examinations for gonococci, that the urethra is the predilection seat of gonorrhea in women, and that the vulvitis and vaginitis are secondary, being caused by the bathing of these parts with the discharge from the urethra and cervix. Vaginitis and vulvitis are rarely seen in cleanly women, according to Bumm.

In many cases of endocervicitis, endometritis and salpingitis gonorrhoica it is impossible to isolate the specific germs. A classic clinical picture of gonorrhea is complete, and yet the most skillful attempts to run down the gonococcus are futile. An explanation of this paradox has been given us by Wassermann. He has shown that the gonococcus produces an active specific poison. The poison is contained within the substance of the gonococcus itself. The poison remains active after the death of the germ. A very small amount of this poison if injected under the skin produces inflammation at the point of application, fever, swelling of the neighboring lymphatic glands, and pain in the muscles and joints. Wassermann sought to find whether there is any immunity against this poison, with a negative result.

With these facts in mind, many dark places in the symptomatology of gonorrhea become more clear. It is possible to explain by this token blenorrhagic rheumatism after the gonococci have entirely disappeared. Moreover, the peculiar symptomatology of chronic gonorrheal inflammation of the female genital apparatus becomes clearer. Remembering that the gonococcus is aërobic and does not multiply under exclusion of oxygen, but, on the other hand, very soon dies under this condition, the picture becomes still clearer. The cocci may become encapsulated and cut off from the circulation in an old exudate and die off, but at their death and disintegration the inflammation and fever-producing poisons are set free. If they are absorbed fever results. If they remain localized the local inflammatory process continues, perhaps indefinitely, since the organism can not immunize itself.

We have seen that the diagnosis of acute gonorrhea may be made by contemplation of the clinical phenomena alone; for example, if acute urethritis be present we are almost certain that the gonococcus is to blame. A few days' observation will establish the diagnosis beyond conjecture, since the symptoms of non-specific urethritis will disappear rapidly. In chronic gonorrhea, however, too much dependence upon clinical manifestation is hazardous. Condylomata are often present, but appear also often independently of gonorrhea. Débris-laden discharge from the vulvovaginal glands is usually an expression of old gonorrhea, but other germs, as the staphy-

loccus aureus and saprophytic forms, may occasion just such discharge. Among the more common indications of chronic gonorrhea, are the maculæ gonorrhoicæ of Sanger, red papules about the openings of the vulvovaginal glands, sclerotic inflammation of these glands in which the glands are felt as non-sensitive nodules under the examining finger, cysts of these glands, and scars and erosions in the vulva. To these may be added the colpitis maculosa and granulosis. All these conditions may be caused by other germs than gonococci. Here, as in acute gonorrhea, the most reliable indication is the urethritis.

The swollen papilla and caruncles at the orificium externum and the milky mucus or purulent discharge speak loudly of specific infection. If the infection has reached the endometrium or tubes, the diagnosis is more easy.

Clinical data are more valuable in determining the value of a discharge from the endometrium or tubes than microscopic search. Such discharges very often infect the male specifically when the gonococcus is not to be demonstrated. As a working rule it may be laid down that gonorrhea is not cured so long as gonococci or clinical phenomena remain; it being borne in mind that the "good-morning drop" may persist after the gonococci have gone, or inversely, the germs may be secluded in the deep layers, occasioning neither objective nor subjective symptoms.

If, having weighed the clinical phenomena and having sought the gonococcus on the slide, we err in diagnosis, it may still be said with truth we have done well. *Ultra posse nemo obligator.*

315 N. Pennsylvania St.

CASES IN HOSPITAL PRACTICE.

LIGATION OF THE GASTRO-EPIPLOICA ARTERY—DISTURBANCES OF THE THYROID GLAND COMPLICATING FIBROID TUMORS OF THE UTERUS.

BY GEORGE N. KREIDER, A.B., M.D.

ATTENDING SURGEON, ST. JOHN'S HOSPITAL; CONSULTING SURGEON, WABASH HOSPITAL; TREASURER STATE MEDICAL SOCIETY. SPRINGFIELD, ILL.

On Sunday, May 15, at 6 P. M., while engaged assisting Major Frank Anthony of the Sixth Regiment Illinois Vols., with some minor surgical work at St. John's Hospital, I was informed that a man had entered with a serious stab-wound of the abdomen. I found H. C., aged 35 years, well-built and fleshy, an attaché of a madame demi-mondaine. He had received his injury while engaged in an encounter with a desperate character in the "tenderloin" district. He was first taken to a saloon where he was seen by several physicians who had recognized the serious nature of his injury and had sent him to the hospital. I found a wound near the left semilunar line extending from about the level of the umbilicus upward two and one-half inches. On removing the dressings, which had been temporarily placed over the aperture by the physicians first in attendance, the intestine prolapsed, and with it came a profuse flow of blood. There was no evidence of any injury to the intestine, and my efforts were confined to discovering the source of the hemorrhage. I first cleansed the wound and surrounding skin thoroughly. Finding that the opening was too small I extended it slightly upward and downward and also toward the median line about one inch. I then carefully separated the walls of the original wound and discovered a clot, which was not disturbed, but was followed carefully to its termination, which I found to be a divided large vessel in the great omentum, and which I doubt not was the gastro-epiploica sinistra artery. It was apparently about the size of the radial, was completely severed, and was pouring blood into the peritoneal cavity at a rapid rate. An effort was made to take it up and tie it in the ordinary fashion, but this was found impossible because the delicate tissues of the omentum tore asunder as the thread was brought firmly down on it. I therefore finally resorted to the quilting in of the vessel, using for this purpose a Red Cross catgut ligature. By this means the hemorrhage was arrested, and I proceeded to remove as much of the blood and clots as could be readily reached. I am sure that considerable fluid blood still remained in the peritoneal cavity when it was closed. Suturing of the abdominal wall was attended with considerable difficulty because of its thickness and rigidity. He was put to bed at 7:30 P.M. At 10:45 P.M. his temperature was 99.4 and pulse 92. The subsequent history was uneventful, and he left the hospital May 30 at 11:45 A.M., less than fifteen days after his entrance, with a normal pulse and temperature.

The point of greatest interest in the case was the method pursued in finding the bleeding point. I had never before used or seen recommended the following up of the clot to its point of origin in order to obtain a clue to the severed vessel. I was kindly and efficiently assisted by Major Frank Anthony and Lt.-Col. C. C. Carter, of the Third Brigade I. N. G.

Disturbances of the thyroid gland complicating fibroid tumors of the uterus are sufficiently rare, I imagine, to warrant especial attention. I will mention two cases of this coincident or connected affection which have come under my observation.

In February, 1896, Miss S. M., aged 44, was operated for a large fibroid and a complete hysterectomy made. Her recovery, except for a phlebitis of the left leg, was without particular incident, and she left the hospital in ten weeks in good condition. During the latter part of the year 1896 she had some circulatory disturbance, but nothing unusual, until April, 1897, when she appeared with the thyroid gland considerably enlarged and the heart's action 120 per minute. The neck measured 13½ inches. She was very nervous, had headaches, and aggravated flushings of the face. She was given thyroid extract for a time, but as that did not seem to do much good she was given four drops of tincture of digitalis and four drops of tincture of strophanthus four times daily. This seemed to meet the indication, as it has in other cases of goiter which I have treated, and in October I noted that the symptoms of flushings had disappeared and also the nervousness. Her pulse was 94. The circumference of the neck had been reduced to 13 inches. Since then she has had no further trouble.

The second observation was made in the case of Miss A. N., aged 33. I saw her Feb. 15, 1898, with Dr. B. B. Griffith, and obtained the following history: Her parents are living. Father is 63 years old and in good health. Mother is 57 years old, has a very large goiter, which began when she was 34 years of age. Goiter manifests itself in nearly every female member of the mother's family. Mother otherwise is in fair health. Patient states that her health began to fail about a year ago. She has had symptoms of goiter for a long time. Her menstrual flow has always been regular and lasted about two

days. She usually had some leucorrhea before the flow began. She has had considerable pain on the right side of the uterus for four months. The urine passed in twenty-four hours amounted to only 700 c.c. The specific gravity was 1012. A slight amount of albumin and a few tube-casts were found. She says she has passed as much as six quarts of urine in a day recently.

Examination revealed a solid growth extending to the umbilicus in the center and to the brim of the pelvis on either side. A diagnosis was made of uterine fibroma. The patient was reduced in flesh and strength to the last extreme. She was removed to St. John's Hospital and every effort made to increase her vitality. After a week's stay in the hospital there seemed to be a slight improvement, but her condition at that time was such that I concluded to operate in the most conservative manner. Her pulse when fully under the anesthetic was 120 and feeble. The decision for a conservative operation was emphasized when the median incision revealed the bladder adherent high up on the growth, and veins of unusual size coursing over the growth itself. I therefore reached for the ovary on the right side and was surprised to find a cyst of that organ the size of a large cocoanut, which had been impacted in the pelvis under the fibroma, and which had undoubtedly given rise to the pains complained of on the right side, for several months. The cyst and corresponding tube were tied off and removed, and the ovary on the left side, which also contained a number of small cysts, and its tube were also removed. The uterus, presenting numerous large fibroid tumors, was again examined and a final decision made to trust to castration to bring about the disappearance of the morbid growths.

The pulse when she was removed from the operating-table was 104, but it soon ran up to 134, and at 3 P.M. of the same day it was 150. The temperature and pulse did not correspond, for at this and other times in the history of the case the temperature was normal or only slightly above, when the pulse was running from 120 to 165 per minute. Four days after the operation the system began to show signs of absorption of the fibroid and the temperature was elevated for twenty-one days, at one time reaching 103, but generally not going above 101. During the time of this absorption a distinct crackling sensation was given to the finger as it was passed along the left side of the uterus. For eight weeks the pulse in this remarkable case ran from 126 to 140. During this time the bowels moved from five to ten times in twenty-four hours, involuntarily, and the stools were of the most offensive character. The urine was passed involuntarily also and was scanty, of low specific gravity, and contained a small quantity of albumin. The mind at times was much clouded, and she required constant watching to keep her in bed. She was so emaciated and weak that neither of us, nor any of the numerous physicians who saw her, entertained any hope of her recovery. We exhausted our armamentarium during the progress of the case.

With the idea that the rapid pulse was due to the affection of the thyroid, we gave thyroid extract, but it did not seem to be well borne and was soon stopped. Digitalis and strophanthus did not seem to have any control of the heart. Protonuclein, panopepton, beef juice, liquid peptonoids, malted milk, koumyss, bone marrow, hemaboloids, and champagne were given from time to time. Malt nutrin, one tablespoonful every three hours, and inunctions of cocoanut-oil seemed to exert a good influence on her nutrition. After more than one hundred days of what seemed a hopeless contest, the pulse began to decrease in frequency. For thirty days it ran from 116 to 120, and for ten days previous to her leaving the hospital it ran from 106 to 110. She has taken on flesh and her color has greatly improved. The bowels and urine are controlled and improved in every way. The appetite, which for weeks was absent altogether, has returned and now she may be said to be well. The tumor has disappeared entirely.

This patient was seen Jan. 6, 1899. She weighed 140 pounds and was in excellent health.

The interesting points in this case are the unusual frequency of the pulse-rate, which can probably be explained by the co-existence of the goiter and the value of the conservative operation of castration in a nearly hopeless case if the usual procedure of hysterectomy had been undertaken.

PREVENTION OF VENEREAL DISEASES.

Read by title before the Mississippi Valley Medical Association, Nashville, Tenn., Oct. 13, 1898.

BY DAVID LIEBERTHAL, M.D.

PROFESSOR OF SKIN DISEASES, JENNER MEDICAL COLLEGE; ATTENDING DERMATOLOGIST, MICHAEL REESE HOSPITAL DISPENSARY, CHICAGO.

Occasionally, and fortunately of late more frequently, a medical man has raised his voice for the protection of society against the insidious evils of venereal disease. Thanks to the profession, by whom only the proper instructions can be given, society already shows signs of realizing the danger. I shall not dwell at length on prostitution proper, nor refer to statistics and quotations of sentiments. What I desire to say is, that prostitution carried on as a trade is by no means so great a menace as is clandestine prostitution or illegal cohabitation. I shall not advocate a legalized compulsory inspection of prostitutes, because of the directly unfavorable effect it would produce. Many a house would conceal its true nature from the public officers in order to avoid rigid inspection and expense. Most of these institutions deem it a wise policy to take all precautions to avoid a loss of patronage from neglect of necessary hygienic measures. To advocate the rigid enforcement of the law prohibiting prostitution, in order to remove its dangers, would be folly. Seduction would increase, as well as the danger to public health.

From the earliest history of the human race prostitution has existed, as is confirmed by ancient tradition. To abolish it would mean to make mankind angels, which can not be done so long as they must serve their term on earth, and we have the trustworthy tradition that even angels descending to earth have dissipated. But how could the danger from this source be lessened? In every community the State should employ a sufficient number of physicians well skilled in this special department. Prostitutes and all others applying should be thoroughly examined for a small fee or free of charge. This examination should not be considered complete without a bacteriologic examination of the discharges. Prostitutes should be examined every five days, and when found healthy a certificate should be furnished. All should be provided with a printed sheet of instructions for prophylaxis. This should consist of

washing the external genitals with soap and water after each cohabitation, and afterward with a prescribed antiseptic solution, followed by an antiseptic vaginal douche. The male should adopt similar precautionary measures, concluding with a mild urethral injection.

What should become of prostitutes when infected? They should be advised to enter a hospital, which should be well equipped and provided by the State, as I shall explain later on. Both these propositions would certainly be highly appreciated by this class as not entailing any expense. Under present conditions many are no doubt deterred by the expense from procuring proper hospital care, and in their diseased condition continue their "business." Far more danger lurks in other sources, and we are looked to for advice as to how to improve matters. As soon as society becomes acquainted with the real nature of and the best means of removing the danger, the government elected by the people will fulfil its obligations.

We shall first consider the sanitation of public places before touching on the possibilities of doing good by the education of parents and others, as well as the direct and active part played by the profession.

Water-closets, from which the danger of infection is really very slight, should be provided with strips of cloth arranged in a closed box, from which one at a time can be secured by a device similar to that employed for closet paper. A visible sign should instruct to thoroughly rinse the bowl and wipe off the seat beforehand. Towels for the face should be used by one person only. Barbers should be compelled by law to disinfect their razors and to wash the soap cup and then their hands after shaving each person. The general use of the hemostatic stick should be prohibited, substituting a hemostatic powder applied by means of a fresh piece of absorbent cotton. The willing service of a barber to remove warts or pimples should not be allowed. Manicures or chiropodists should disinfect their instruments and take corresponding precautions in the treatment of their customers. Dentists, only filling teeth, should not forget that their instruments require disinfection as well as those employed for cutting. Physicians do not fulfil their duty in simply disinfecting their instruments, but should always bear in mind that medicines for application in outspoken venereal cases should be kept in separate receptacles, as well as sponges, brushes, absorbent cotton, nitrate of silver stick, etc. In doubtful cases, proper precaution should be taken. I can not avoid emphasizing this, for it has occasionally happened that syphilis and gonorrhea have been contracted by omission of these precautions, which are obligatory upon every physician. But just as they should protect their patients, so should they care for their own safety, especially in regard to syphilis, which is frequently contracted by physicians in obstetric and gynecologic practice. I have been consulted by a relatively large number of my professional brethren for primary lesions on their fingers and hands, and I must say most of those have been very resistant. The same is true of midwives. Recently, in consultation with Dr. Radesinsky, I have seen two cases of sclerosis on the ulnar side of the dorsum on the right hand, and could easily surmise where the seat of infection lay in the parturient woman. The midwives, having examined with their right hand, touched with the dorsum of that hand the left labium majus, where moist papules were seated. Subsequent examination of the women confirmed this suspicion. What protection would I advise? In examining a new patient, closely fitting rubber gloves, well lubricated, should be employed. If syphilitic primary lesion or papules are found, it is all the more advisable. The vaginal portion of the cervix should not be overlooked, being oftentimes the seat of a primary lesion, as may also be the vaginal walls. In examining the rectum or mouth with the finger, it should be protected with a rubber cover.

Turning now to the homes, we shall not forget the adults, although we must devote more time to the birth and growth of the child until it arrives at the age to care for itself. First of all, the bathtubs should be covered with sheets of linen, properly sewed together to fit the tub, using a fresh cloth for each bath. This is particularly necessary for public bathing-houses, and is quite generally employed in the bathing-houses of many European countries. Tooth-brushes should be kept locked up by each person. Fountain syringes for rectal or vaginal irrigations should be used only by one person. Even the servant-girl should not use that of her mistress, or vice versa. If it is unavoidable, then the most scrupulous cleanliness and disinfection should be employed. If syphilis, recent or remote, is found in a pregnant woman, early treatment should be instituted in the interest of all parties concerned. In case gonorrhea of the mother is acknowledged or suspected, the birth canal should be thoroughly prepared before labor. In any case, a few drops of a 2 per cent. solution of silver nitrate should be applied to each conjunctival sac of the infant immediately after birth. Bath-sponges and other appliances for the care of the child should be kept correspondingly clean, and are not to be used by others. Should the mother not nurse the child, care must be employed in both methods of substitution. If a wet-nurse is obtained then both she and the child should be examined in order to avoid infection of either party; or, if bottle-fed, the bottle should never be offered to another nursling, nor the bottle of another accepted. The habit of kissing the children of strangers should be interdicted. Later on the child must be taught to drink only from its own glass. The sleeping of children with adults should decidedly be declared to be unhealthy, for many a child has innocently contracted syphilis or gonorrhea in this way. Far less should children of different parents sleep together. As the child approaches puberty, although social prejudice is against it, we have to insist that it should be instructed by its parents or other responsible people in the physiology and hygiene of, and the danger to, its sexual organs. If it should be argued that by such information there will be aroused in the mind of the young man or maiden a morbid curiosity and a hitherto unknown sensation, whereby they can go astray, we reply that if parents are not willing to do their part, friends will soon enough appear on the scene who will communicate to the innocent more details than parents could do, and will describe all they know in a very fascinating and seductive manner. Such friendly narratives or the reading of obscene literature would be divested of their unfortunate effect were the young prepared—the son by his father and the daughter by her mother, because to these instructions many a loving word will be added. Thus many a young mind will be saved from falling, and should such an event occur, knowing the

dangers of infection, they would at once apply to a physician should the slightest symptoms appear.

To return to the relation of the physician to the State. That physicians are able to do the most for the prevention of venereal diseases is easily demonstrated, but only when the Government arrives at the conviction that the profession should be consulted and their advice accepted. In the first place the sale of all proprietary medicines for venereal diseases should be prohibited and quack advertisers suppressed, while druggists should not be allowed to prescribe. The law in this respect should be strictly enforced and the part of the physician will be a much easier matter. He should not deliver a prescription to a patient calling for a specific remedy. He (the doctor) should either furnish the remedy himself, or, if it is dispensed by the druggist, it should pass through the hands of the physician.

To substantiate what I have just said, take, for example, a case of acute gonorrhea. The patient receives his prescription and possibly returns a second time, to disappear for ever. He does not consult another physician, but has his prescription filled and refilled until the alarming symptoms, copious discharge and intense burning subside. The chronic gonorrhea ensuing does not cause him as much distress, and possibly a morning drop only remains. He deems himself cured and seeks new cohabitation, and naturally not where he contracted his first infection, and so transmits the disease to one or more. Besides, he may have a good friend in like condition whom he is happy to advise, and the original prescription is refilled indefinitely with a similar result each time. In all cases, where it is possible, the patient should be treated in the doctor's office. In the first place, the application will be properly made, and secondly, he will have the moral support and good counsel of the doctor to deter him for at least the next twenty-four hours from indulging in liquors or cohabitation. The danger of complications being frequently emphasized and impressed upon him, he becomes at length more and more conscious of the fact that he may be a source of danger to others and learn to weigh his responsibilities. And finally, he is not discharged until cured. The same must be said of female patients and the effect of severe medical control will be equally observed. But how with patients whom circumstances compel to change places, for instance, traveling men? They have the opportunity to consult a physician wherever they go, and he can do the same. If a patient lacks funds to pay the usual fees, he will still find a liberal physician who will attend to his case. A patient without any means should apply to a doctor for a certificate directing him to a dispensary or hospital. Of these institutions there should be a sufficient number according to population, and supported by the Government with sufficient liberality to afford the patient the best of care. An ample staff of experienced physicians should be elected by the profession—and not through political influence—to attend these institutions, and should receive suitable remuneration. Thus, at least, in one branch of medicine there would be avoided the abuse of the free dispensary by persons perfectly competent to pay, and from these hospitals and dispensaries the necessary clinical material for instruction could be secured.

Impracticable as some of the foregoing suggestions may appear, it is still true that no material advantage is obtained without effort, and considering the enormous benefit to humanity, it can not surely be purchased at too great a price.

103 State Street.

SOME FORMS OF GANGRENE AND THEIR TREATMENT.

Read before the Mississippi Valley Medical Association, Nashville, Tenn, Oct. 11-16, 1898.

BY J. S. NOWLIN, M.D.
SHELBYVILLE, TENN.

Gangrene means death of a part, and by common consent is technically applied to the soft tissues, including the fluids. The blood is always involved in this disease, and there can be no death of a part while it is performing its function. With this thought kept before us, that there is no local death where the blood is performing its function, we may inquire into the conditions which result in gangrene.

External violence may crush the tissues, to the extent that circulation is thereby arrested. The channels for the blood-current being destroyed, it is impossible for it to yield its life-giving force, and the part must necessarily die. So long as the arteries and their capillary system are at all intact, life may continue and the injury be repaired. The same may be produced by the extremes of heat and cold, burning and freezing; the tissues being destroyed, the blood can not circulate. These we class as traumatic causes of gangrene. We also have internal conditions resulting in gangrene, e.g., the neuropathic form, in which death of a part results from sudden withdrawal of the nutritive forces.

Though I am not sustained by the weight of authority, I believe we have a trophic nerve which controls the nutritive forces, and directs that energy of the circulating medium which feeds the system and gives life. Some have looked upon this as inherent in the common function of the vasomotor system. I believe there is a *receptive vital force inherent in the cell* which enables it to receive and appropriate nutritive energies of the blood as it passes by, and if this is wanting in a given tissue, the blood, though normal, can not impart its life, and death at this point is the result. I saw decubitus appear on the nates of a feeble old lady aged 70 years, within twenty-four hours after she suffered a fracture of the neck of the femur. It also appears quickly after injuries to the spinal cord. It is patent to every close observer that when a part has been injured as, for example, an incised wound, the blood is quickly rushing to its relief, and all the capillaries in close proximity are immediately surcharged. This is not simply that continuity is wanting, and the vessels leaking, but it is an intelligent determination of the life-giving fluid for purposes of repair. This is the first step of all the steps in the process of that series of conditions which we call inflammation, and, if recognized and understood by the surgeon will, as a rule, be the only step.

Simple endarteritis is sometimes the cause of gangrene. In this condition it is not because the lumen has been obliterated, but because the intima is not in receptive status and the blood can not impart its nutrition. Vitality of the tissues is thus rapidly impaired and lost, the sequence being that the blood is retained in the artery to an extent beyond its capacity. The inflamed artery is thus surcharged with blood, and a stasis results which ends in coagulation, ob-

structing the lumen to an extent commensurate with the inflammation. Here the gradual loss of life precedes the actual infarction of the vessel. In support of this I quote from Warren, who says: "Individuals affected with diabetes or scurvy, are peculiarly liable to gangrenous processes."

The so-called marasmic thrombi are usually due to a slowing of the current, and a coincident defect of the walls of the blood-vessels, thus favoring coagulation. The same thought is in Weigert's theory of coagulation neurosis, in which he says that the cells of the tissue become altered to granular or hyaline masses and lose their nuclei. The obliterative endarteritis, with new tissue formation, has impressed me as a pathologic condition which has not grown up suddenly, but requires time.

Sepsis is doubtless the more frequent cause of gangrene in the extremities, in cases of continued fever, or any protracted trouble in which blood is spanemic and the nervous system depressed.

Senile gangrene is the result of diseased arterial walls being either atheromatous or deficient in nerve-supplies, possibly both. It will be observed that sepsis may produce thrombosis, and either this or embolus may obstruct the arterial canal at the extremities. The difference then from senile gangrene is in that form producing cessation of nutrition because of non-nutritious capillaries, while the septic form is from thrombosis. The time for operative treatment in senile gangrene is somewhat at the discretion of the surgeon, but in the septic or obstructive form, it must be done instantly.

In the line of treatment the time for operative interference which will be safe to life, and for determining the point of amputation which will least mutilate the body, are all important. If traumatic in any of the varieties, we know that it is local, and so long as it so continues, there is no danger of constitutional effects that will be destructive to life. The operator should be familiar with the earliest indications of sepsis, as also that traumatic endarteritis, known as fulminating, which now and then destroys the patient so quickly. The artery is lacerated or in some way wounded, and the rapid obliteration may be caused by local shock to the trophic nerve, or the intima may become at once inflamed, with like result. When this state exists, amputation should be done at once at a point above bifurcation. On the other hand, if the above does not exist, the surgeon may select his own time for operation.

In the senile form, the disease is caused by sclerotic conditions of the arterial wall, whereby the expansive and contractive function is destroyed, and the nutritive receptivity lost; the part dies for want of nutrition, though the blood is normal. Twenty-five years ago I was afraid to cut a sclerotic artery, but now I am sure the best practice is to amputate.

In the beginning of this paper attention was directed to the blood as the leading factor to be looked after in pathology and treatment. If this is kept in view, the question of demarcation will no longer be looked upon with so much anxiety. There are four principal causes: 1, the septic, in which the blood is diseased; 2, the senile or atheromatous condition; 3, trauma; 4, inflammation of the internal coat of the artery. If septic, we have thrombi and coagulated blood up to the first principal bifurcation of the artery. The symptoms being pain first, then coldness and ease, are all that ought to be asked, and if these obtain, amputate high up at once. If senile or sclerotic, a little time may be given, but the knife must come, and that above the ankle if not higher. If traumatic, the watchful intelligent eye and *tactus eruditus* must be on the outlook for sepsis and hold the knife in constant readiness to assist nature at the first intimation. If simple endarteritis, or endarteritis with tissue formation, then again amputate at the first evidence of fading vitality.

HYDATID CYST OF THE LIVER.

LAPARO-HEPATOTOMY AND RECOVERY.

Read before the Indiana State Medical Society, May 28 and 29, 1896.

BY LEON J. WILLIEN, M.D.

TERRE HAUTE, IND.

The history of echinococci of the liver, or hydatids, is of no recent date, because Hippocrates describes certain kinds of fluid he found in the liver, which description, from its preciseness, leads us to believe that the malady existed then. Both Galen and Aretæus were not ignorant of its existence, yet no records could be found giving an accurate description of these cysts until more attention was given to the study of anatomy, in the sixteenth and seventeenth centuries, when Plater, Vega and Riverius gave a more careful and minute description of the disease. To Breemer is due the credit of having first given an accurate description of the echinococci, in 1821. From that year on, with the progress and rapid advancement of medical science, more was learned of this hepatic parasite, and the microscope reveals its existence.

I am not desirous of dragging this paper into a lengthy description of the disease, but simply ask attention to the following case, which, on account of its rarity and the result, was one of unusual interest to my fellow-colleagues and myself. To make a diagnosis of a hydatid tumor by a simple physical examination is difficult, unless we have recourse to the microscope, otherwise there there would be a probability of its being not a certainty. Even the closest clinical observation, kept up for days, will often keep the physician at sea as to the certainty of the diagnosis; therefore we must always accept *cum grano salis* the positive existence of a hydatid tumor of the liver unless a microscopic examination of the contents is made. How do we know for certain whether the liquid withdrawn from the pleural cavity is serum, or whether a hydatid sac has broken into it, without that examination? The symptoms would be those of a sudden rupture. They would quickly dispel the idea or the surmise of an effusion resulting from pleuritis. The diagnosis of such a case has been made most frequently at the postmortem.

Case 1.—Elias W., aged 50 years, single, coal miner by occupation, residing at Fontanet, Vigo Co., Ind., small in size, thin in flesh, light complexion, and of a delicate constitution. He claimed to be of regular habits; his physiognomy is characteristic of an eccentric individual, a religious crank, and a poet. Could find out very little concerning his history. For some months previous to his consulting a physician he had pain in the region of the liver, with indigestion, constipation, and a sensation of weight in the hepatic region. The pain came on gradually and ceased suddenly. He was admitted to St. Anthony's Hospital June 26, 1895, and placed in the clinical ward, then in the charge of Dr. Walker Schell.

The history of the case was rather obscure, he saying that he had pains in the region of the liver since September, 1894. After observation for several days the Doctor discovered an unusual increase of the anterior lobe of the liver. The larger diameter of the tumor was felt just over the juncture of the nipple and the parasternal lines. Its face was irregular, soft, and almost fluctuating to the touch; the area of the stomach

and abdomen was increased, and the lower margin of dulness was due to the presence of fluid. The Doctor then kept the patient under observation until July 2, when toward evening his temperature rose to 103.4; July 4 his temperature was 102. July 5, morning temperature 103; noon temperature 102 and evening temperature 102. This condition, with a depressed and rapid pulse and the general appearance, was sufficient cause for alarm, demanding more active interference than internal medication.

The Doctor, finding surgical attention necessary, kindly turned the case over to me for operation. The patient was chloroformed by Dr. Chas. Wyeth. Then, with the assistance of Drs. Schell, Shaley and Jenkins of the hospital staff, I made a curvilinear incision over the larger diameter of the tumor, beginning about one inch below and three inches to the left of the sternocostal articulation, the center passing one inch to the right of the linea alba and downward to about three inches to the right of the umbilicus. After reaching the peritoneum I picked it up with a dissecting forceps and nicked it with a pair of scissors. Encountering no adhesions, I slit it open and entered the peritoneal cavity. In passing my fingers into the abdomen I discovered the whole anterior portion of the liver enormously enlarged, its inner border extending beyond and to the left of the median line, inferiorly down to the umbilicus, and externally on the flank below the parasternal line. Its surface was smooth and of a dark color, almost blue; subcapsular veins greatly distended. The hepatic tissue appeared solid, yet there was a certain degree of resistance, indicating the presence of some fluid beneath. In passing the hand to the right over the nipple and parasternal lines I found the walls thin, fluctuating and of a grayish color. To prevent the escape of the contents into the abdominal cavity, I stitched the peritoneum to the hepatic capsule with catgut. I then plunged the exploring needle into the walls of the liver; these I found to be only one-fourth inch thick. With the aspirator I drew out at first about two ounces or sixty grams of a semi-opaque liquid containing white filaments. This was sufficient evidence of the existence of a hydatid cyst. I abandoned the process of aspirating the contents, because of its uncertain results. I slipped a grooved canula into the aperture made by the aspirating needle to serve as a guide. With the back of a narrow bistoury I then penetrated the sac, making an opening about three inches in length so as to permit the free introduction of my fingers. Fortunately, no hemorrhage occurred, and I at once proceeded to break up the hydatid tumors that distended the entire anterior hepatic lobe. These varied in size from a turkey egg to a B shot, the contents in all amounting to about three pints. After flushing the cavity well with hot sterilized water, I packed the sulcus well with 5 per cent. iodoform gauze, bringing the upper and inferior angles of the incision in apposition with iron-dyed silk. The whole was well dusted with iodoform, well covered with absorbent cotton, and maintained in position by a roller bandage. The operation, including time taken for the anesthetic, occupied one hour and twenty minutes.

The patient stood the operation well, and reaction set in promptly; he had little nausea and vomited only three times. During the night his temperature rose to 103 and pulse 110, but by morning he had dropped down to 101 and pulse 90. Although prostrated, he felt little or no pain. The patient passed a quiet night, though suffering at times with a little nausea. Sips of hot water were gradually given him to allay the irritation of the stomach.

July 7, temperature, morning and evening, 101, with a pulse of 90; complains of no pain; skin is moist, and the tongue slightly coated. The body presents a general icteric taint. Upon removing the dressing there escaped a quantity of bile. The sac was washed out thoroughly with a warm solution of chlorid of sodium, and the drainage tube being replaced, the wound was dressed. No medicine; diet, malted milk.

July 9, fourth day, morning temperature 100, pulse 90, soft and regular; has had slight hallucinations. After washing out the sac first with pyrozone, I injected solution of tincture of iodin, one part to four of water. Secretion of urine scant, tainted with bile; bowels constipated.

℞. No. 1.	Calomel	gr. 3	20
	Sodii bicarb	gr. 10	65
	Aloin	gr. ¼	016

Sig. To be given at once, and if no purgative effect is obtained in five or six hours, give maltine with cascara ℥1 every four hours.

July 10, fifth day; bowels moved freely during the night; he rested well, but sweat profusely; temperature 8 A.M. 99; pulse 90; washed out the wound and dressed as before, ordered:

℞. No. 2.	Quin. sulph	gr. 4	26
	Caffein, ext	gr. 1	065

Sig. To be given four times during an interval of four hours. Diet, malted milk and beef broth.

July 11, sixth day; general condition the same as yesterday; temperature 99, pulse 72; quite a quantity of broken-down hydatids, almost a teacupful was washed out. No treatment; diet, beef broth and milk punch.

Ninth day. The patient was well until July 13, when he did not rest well during the night and sweat profusely; temperature 101 at 8 A.M., pulse 80. Quite a quantity of bile, with more hydatids, was washed out; same process of irrigation of the sac as before; bowels constipated, and the tongue coated. Ordered a repetition of ℞ Nos. 1 and 2; same diet.

July 14, tenth day, temperature 99, pulse 80 and weak; sweat profusely during the night, and has had very little discharge from the wound. The sac is contracting. After removing the dressing, I slipped the finger into the cavity and felt numerous clusters of hydatids attached to the walls of the liver, about to break down. Same treatment as before; repeat ℞ No. 2 and ordered the following tonic:

℞ No 4.	Sol. strych. sulph. 1/60	gtt.	2.
	Sol. nitro-glycerin 1/100	gtt.	2.
	Tr. digitalis	gtt.	5.
	Tr. ferri chlorid	gtt.	10.
	Tr. cinchonæ comp.	℥	1.
	Syrup pruni virg.	℥	3.

Mix.

S. Repeat three or four times daily. Same diet.

July 15, eleventh day, temperature and pulse the same as yesterday; looks better, and the sweating has yielded to sulphuric lemonade; same treatment of the wound, from which quite a quantity of hydatids were expelled. The patient kept on improving, until July 24, when his temperature was almost normal; the cavity of the liver was closed up, the hydatids had disappeared, and quite a quantity of bile tainted with pus escaped. The same dressing was kept up until July 31, when the iodin was omitted. Fifty per cent. solution of dioxid of hydrogen was substituted, and after douching out the sac, the dressing was replaced, and the same treatment continued until August 15, when the wound was healed, and Elias went on his way rejoicing to be still in the land of the living.

The patient is now (Oct. 30, 1898) living in Pennsylvania.

ELECTROLYSIS AND CATAPHORIC MEDICATION.

THE TREATMENT OF CHRONIC CONGESTED PROSTATITIS AND ITS SEQUELS, IMPOTENCY AND SPERMATORRHEA, THEREBY.

BY G. W. OVERALL, M.D.

Late Professor of Physiology and Electro-Therapeutics, Memphis Hospital Medical College; Author of "Practical Electricity in Medicine and Surgery," etc.

ST. LOUIS, MO.

The pleasurable sensation of the orgasm being located in the prostate gland, and it, together with the contiguous organs, being furnished with highly sensitive nerves, makes it the most prominent organ of direct sexual influence. In fact, the prostate may appropriately be called the seat of the sexual brain. It is to this gland that the psychologic lustful impulse, in order to satisfy the animal nature, is indirectly exerted through the sympathetic nervous system.

The intimate reciprocal relations of the brain, or cerebral centers, and the prostate gland are marked, both in health and in disease. In health, excessive mental taxation, as by study or business cares, will lessen the sexual appetite; while violent emotions, such as grief, fright or anxiety, will temporarily suspend all desire. Men are by nature much more sensually inclined than women, and when they cultivate libidinous impulses, and the associations of prostitutes, they are liable to indulge sexual propensities to such an extent as to develop passions that may

lead to grave immoral vices, like excessive sexual intercourse or even masturbation. Both of these frequently give rise to urethritis, prostatitis or stricture; which, in turn, reacting upon the inflamed prostate, cause at first an almost insatiable sexual appetite, that later may be followed by a total loss of all sexual desire, accompanied by involuntary seminal discharges. Such conditions usually result in young men not exceeding 40 years of age, and often the tax and drain upon the nervous system cause such perverted psychic conditions as mental depression, melancholia, and even at times insanity. Impotency in men past 40 years of age, not due to inebriety or organic cerebro-spinal diseases, is almost invariably the result of chronic prostatitis.

Just as mental disturbances influence sexual conditions, so in like manner do diseases of the prostate gland cause such various forms of mental disorders as inactivity, depression and neurotic aberrations. I have especially noticed that men between the ages of 40 and 70 years, suffering from chronic prostatitis, and as a result, impotency, lose the keen mental activity they formerly possessed. Their perceptive and reasoning faculties become more sluggish and inactive.

Figure 1 illustrates the shunt coil I have been using for quite a while, and I find it is absolutely accurate and never gets out of order. I have had constructed for me a primary and secondary faradic coil which makes it complete in every respect.

Impotency often exists for many years as a result of chronic prostatitis without the presence of symptoms of sufficient importance to cause the patient to consult a physician. I have met with quite a number of such cases, past 60 years of age, who thought the loss of virility was a natural sequence of old age, and had never consulted a physician until annoyed by dysuria; after the prostatitis had been relieved, accompanying the return of a natural sexual vigor, there was a corresponding return of both mental and physical activity. I do not wish to be understood to mean that there is a return of sexual vigor equal to that of early manhood, but nevertheless I am safe in asserting that it will be equal to that in the corresponding normal condition of the same age. Some men are naturally stronger and maintain their virility longer than others, and when the prostate gland is in a healthy contion, it may continue even past 70 years of age. It is the exception rather than the rule that a man passes his fiftieth year without having chronic prostatitis, and as a result, impotency, or at least impairment of the sexual organs.

Spermatorrhea is almost invariably the result of inflammation of the prostate gland, and the prostatic and seminal ducts. The semen may pass at night or both night and day, and usually without any sensation or erection. This condition is confined mostly to young men, and should not be associated with the nocturnal emissions resulting from voluptuous dreams and attended with erections. The latter may occur in health, after long abstinence from sexual relations, or may also occur when the prostatic urethra is inflamed and loses its elasticity. In the latter, the erection naturally draws upon the urethra, which, accommodating itself to the elongated condition, produces sufficient irritation to cause an emission, that in turn, is usually accompanied by sensation sufficiently perceptible to arouse the person.

CAUSES.

The chief causes of chronic prostatitis are: strictures, urethritis, cystitis, rectal ulceration, and the

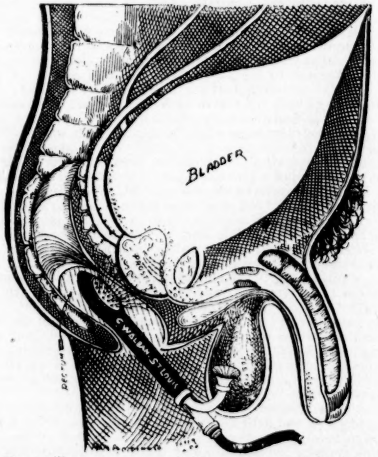


Figure 2 illustrates an electrode in use for the treatment of the prostate gland through the rectum by cataphoric medication, as devised and used by myself for some years. It is the best means I have ever used for relieving prostatic inflammation; and especially where the urethra is tender and attended with pain on the introduction of a bougie or any instrument into the bladder.

rough treatment of strictures by the forcible introduction of sounds into the bladder, tearing the inflamed mucous membrane and striking the tender gland with the end of the sound in making the curve as it enters the bladder. The teachings of authorities, of the harmlessness of dilatation in the treatment of strictures, urethritis and prostatitis, have developed an undue tendency to and rashness in forcing sounds into the bladder, causing hemorrhage, great pain, urethral fever, chronic prostatitis or prostatic abscess.

Residual urine, laden with mucus and urea, becoming decomposed and evolving carbonate of ammonia, is very irritating to the neck of the bladder and prostate, and is often a frequent source of the trouble. Chronic congested enlargement of the prostate is often mistaken for stricture or senile hypertrophy.

"Hypertrophy of the prostate" is a term under-

stood by the profession to mean a fibrinous indurated enlargement, common to old age, and should not be confounded with the chronic, congested and swollen condition which is the result of inflammation. The former is a fibrinous indurated enlargement, attended at first with little or no acute sensitiveness (unless it has grown to the extent to interfere with emptying of the bladder, causing decomposition of the residual urine), and, according to Sir Henry Thompson, whose extensive experience places him as the generally accepted authority, occurs in men past 60 years of age, though there are isolated cases which have been reported as having occurred earlier in life. Hypertrophied prostate covers a multitude of errors in diagnosis, and those intractable cases of deep urethritis, prostatitis and strictures that prove rebellious to treatment are classed as such and considered incurable. Chronic congested enlargement of the gland usually follows strictures or chronic urethritis, or is concomitant therewith. It may occur at any time during life, even past 70, independent of senile hypertrophy.

The idea that prevails among the profession, that, when a man has any enlargement of the prostate gland past 60 years of age, it is hypertrophy and incurable, is erroneous. Some physicians even place the time of life for the appearance of senile hypertrophy anywhere from 30 years on up. I have treated and relieved cases of chronic enlargement of the prostate gland past 70, some of which had been treated for hypertrophy for twenty or thirty years. I can not cure hypertrophied prostate, and always tell my patients that I can not; but, by the use of rectal cataphoresis, I can relax, and to a limited extent soften the indurated tissue, and render the patient comfortable for many years. I have had a perceptibly diminished size of the prostate, but have never reduced it to its normal condition. Owing to its highly sensitive nerve-supply, disease of the organ is attended with marked reflex nervous disturbances, even to the remote organs of the body.

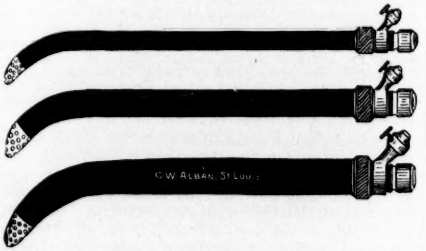
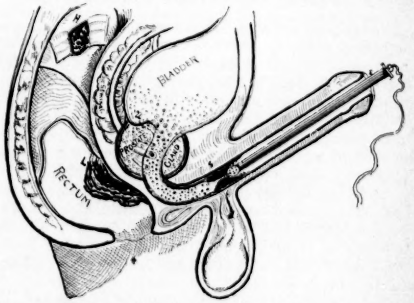


Figure 3 illustrates three sizes of cataphoric electrodes for the treatment of the prostate through the urethra when the latter is devoid of acute sensation. They may also be used in the treatment of strictures, as illustrated in Figure 4, which, when accompanying chronic prostatitis, must always be removed before permanent relief can be afforded the prostate.

TREATMENT.

It is not within the province of this brief article to discuss electrophysics or the properties of the different electric currents, as they can be obtained through a reliable text-book, but suffice it to state that, in these, we have agents that will relieve pain, stimulate vasomotor and muscular contraction, promote absorption, dissipate morbid deposits, and favor the transudation of medicinal remedies into and through animal tissue.

In regard to "cataphoric medication," or the process by which medicines are introduced into organs by the galvanic current, the electrolytic or chemic effect of the current must be borne in mind; as most of the binary, or multiple compound medicines used are electrolytes, i. e., the medicines themselves are liable to be decomposed by the current into their original chemic elements, so that, instead of procuring the effect of the remedy used, you get that of one of the original elements composing it. It should also be remembered that the medicine to be used must be in perfect solution, and that the transudation takes place mostly in the direction of the electric current, i. e., from the positive toward the negative, and that the electro negative elements, as acids, oxygen, etc., tend to the positive, while the electro positive elements, as the alkalies, hydrogen, etc., pass to the negative pole. A thorough knowledge of the electrophysiology and electrotherapy, is prerequisite to the successful treatment of any disease by electricity, except by accident, for in the various kinds and modifications of the currents, their effects are as different as calomel, quinin, morphia, etc., yet the majority of physicians look upon it only as "electricity," and when they use it at all they do so only in an empiric way. I shall state that for galvanic batteries the open circuit cell gives a more uniform current, but that



cells deteriorate with use and must be kept in good condition. Where one can procure the ordinary continuous incandescent light current, it is better to use it with a reliable shunt coil, which gives the voltage required *accurately* and *uniformly*. The voltage is the same at the end of the treatment as in the beginning, and after six months or a year's use is the same as the first day, and then one avoids the annoyance of repairing cells.

I have selected in this report some of the most common cases with which we meet, together with the complications usually concomitant therewith.

Case 1. Urethritis, chronic prostatitis and cystitis.—A physician, aged 47, married, no children, large and healthy looking, gave the following: No venereal history; had practiced in the country, doing much horseback riding up to twelve years before consulting me (November, 1896), and in a cold climate. He lived in the city during the past twelve years His first symptoms appeared in 1890, when he began having irritation of the bladder, aggravated by cold weather. It continued to grow worse, when he began noticing a deposit in the urine on standing, which increased in quantity from time to time, until it was quite abundant, and became offensive and irritating, causing considerable pain in voiding, with frequent desire that remained after passing it. Reaction showed 1 per cent. albumin, as is natural for mucus or pus. During this time he was taking treatment, both local and constitutional,

locally by the introduction of sounds. The symptoms continued to grow worse, until he could scarcely leave the house, during the winters of the past three years before consulting me. During this time he was under the treatment of a genito-urinary specialist, who had given him the usual internal remedies, using sounds, washing out the bladder, and stripping the prostate gland. Examination revealed a swollen and inflamed prostate, prostatic urethritis and cystitis. I had him discontinue the washing of the bladder, which he had kept up daily for a long time with the view of diminishing the quantity of mucus and pus in the urine. The urethra was exceedingly tender. I did not again touch it or the prostate for three days, but had him take only such internal remedies as would render the urine bland. On the third day I introduced a bougie into the urethra, which was not very sensitive, except at the prostatic and neck of the bladder. I used on the bougie my favorite benzoinol ointment (oil eucalyptol ʒ ii, to benzoinol ʒ iv). This was repeated three times before making an application of cataphoresis to the prostatic urethra, of ten volts for three minutes. There was very slight irritation during the application, which was followed with marked relief of all the annoying symptoms, and especially of diminished deposit in the urine. The electric application was again used on the third day, as the first gave so much relief. The deposit of urine was now reduced to less than half what it had been when I first examined it, and the voiding of it was less frequent, only getting up at night twice instead of half a dozen times as he had formerly. Watching closely the effect of each application, and noting that relief was afforded, without any irritating effects resulting therefrom, it was continued regularly for three weeks, when the urine had cleared up entirely, and was voided only once in about every four or five hours during the day and twice at night. The prostate had been reduced to almost its normal size, with very little tenderness.

The patient lived a long distance away and was compelled to leave on very important business with the view of returning soon. He wrote me in a week after he had been home, saying that he had continued to improve, and that there was no necessity for him to return, as he was passing urine normally, though he noticed a slight sediment at times in the morning. One month thereafter he wrote me the second time, stating that the urine had cleared up, and that he did not have to get up through the night at all, was busy with his practice, and the cold weather which had appeared did not affect him in the least, as it had done heretofore. I have heard from him several times since and he reports excellent health.

Case 2. Urethritis, prostatitis, cystitis.—A merchant, aged 36, married, three children, had never had gonorrhea, but had masturbated some in early life. He began having trouble occasionally, in voiding urine, at 30 years of age, when it would pass off with no symptoms to annoy him again for one or two months, until within the past two years, since he had been riding a bicycle, it had become very troublesome and at times the urine would be followed with blood, and was so painful in voiding that he would get down on his hands and knees and, even after all had passed, would strain as though there were more. The membranous and prostatic urethra, together with the neck of the bladder were exceedingly tender. A few drops of blood passed after withdrawing the bougie. Rectal examination revealed a very tender and swollen prostate. He was treated with the introduction of bougies into the urethra every third day, and rectal cataphoric medication every second day, using with the latter a saturated solution of boric acid. This treatment was continued regularly for two weeks, when all acute symptoms had subsided. Urethral cataphoresis was then begun, together with the rectal. The treatment was kept up six weeks, making in all two months, when he was dismissed, and has been well ever since.

Case 3. Prostatitis, urethritis, cystitis.—A bachelor, aged 69, had several attacks of gonorrhea, for which he had been treated by nitrate of silver injections. He had also been treated for hypertrophied prostate by various physicians for over thirty years. When he first consulted me he had just undergone a treatment by the introduction of sounds, washing out of the bladder and local applications to the prostatic urethra. This had greatly aggravated his trouble, causing vesicle tenesmus, which necessitated the voiding of urine every fifteen to thirty minutes through the day, and from eight to ten times during the night, attended with severe pain and straining, though passing only a small quantity of urine at a time. He had been totally impotent for several years. The prostate gland was very much swollen and inflamed, with one lobe somewhat indurated.

I had him discontinue the washing of the bladder, and gave him internal remedies to render the urine bland. He had been taking sanmetto and similar medicines, which gave him slight relief for a short time, only to recur in a more aggravated form. The prostatic urethra had been rendered so sensitive by the daily use of the catheter in washing out the bladder, that I did not make any intra-urethral applications for ten days. I gave him suppositories of aristol and boric acid, āā. gr. v., ext. belladonna, ¼ gr. to be used at night on retiring. I applied, through the rectum, cataphoresis with boric acid directly to the prostate. The urine began to pass less frequently, with less pain and diminished quantity of sediment. I then began the introduction of the bougie, continuing the rectal treatment at the same time. The urethra was studded from within two inches of the meatus to the neck of the bladder with granulations, causing marked tenderness and swelling of the lining membrane, which, by encroaching upon the caliber, caused narrowing of the canal. After having used the bougie the third time, the negative urethral electrode was glided over the granulated surface, using five volts for three minutes. This was followed with much improvement. I then began the application of prostatic cataphoresis with boric acid through the urethra, alternate days. This was kept up two weeks. Though followed by some irritation for a few hours after treatment, the subsequent effect was attended with much improvement. After the third treatment he only voided urine every three to four hours during the day, and twice through the night. There was little or no irritation in evacuating the bladder, which could now be entirely emptied. The urine had cleared up during the day and showed only a slight deposit in the morning.

Electrolysis was applied to the urethra once a week; and after all the acute symptoms had subsided, the rectal prostatic cataphoresis every third day, with 20 per cent. iodid of potassium. This application caused some irritation of the prostate and bladder that would last from sixteen to twenty hours, when it would pass off.

This treatment was continued for five weeks, at the expiration of which the urine was voided only once and often not at all, through the night, and three to four times during the day. He stated that he did not think he would have to pass it any oftener than was natural, if he could keep it from his mind. He was with me six weeks. Later, I learned through a friend of his, that he had married in about two months after returning home.

Case 4.—Chronic prostatitis, urethritis, cystitis, phimosis.—A merchant, aged 50, delicate, married twenty years, with no children, constipated and dyspeptic, had a very long prepuce, with a firm band that contracted and pained him when forced back of the corona. He had suffered with enuresis all his life, both day and night. Three years prior to consulting me, the urine passed with difficulty, and occasionally there would be retention for several hours, which finally necessitated the withdrawal of it by means of a catheter. Immediately preceding these attacks there would be pain over the region of the bladder, and in his back, necessitating his confinement in bed for two or three days after the bladder had been evacuated. The three or four days succeeding the withdrawal, the urine would become clear, strongly alkaline, very irritating in its passage (without the use of the catheter) and in large quantities. The attack would at first recur once a month; then fortnightly, and finally once every week, which kept him confined to bed most of the time. He always had a mucopurulent deposit in the urine prior to each attack, but it would clear up when the urine became abundant. He said he had taken almost every remedy in the drug store, some of which gave him temporary relief. About six months prior to consulting me, the pain in the back had become very severe and constant, and at the same time he began noticing a numbness of the right side. The latter continued to become more marked until he noticed that he was losing control of the arm and leg of that side, occasionally dragging the leg and raising the arm with difficulty. He was extremely constipated. There was a slight ulcer in the rectum immediately opposite the prostate. He had an exquisitely tender urethra and prostate, the latter being somewhat swollen.

The treatment was begun by introducing a bougie into the

urethra every third day, and rectal cataphoresis with boric acid alternate days. He at the same time was given ℥i of fld. ext. trit. rep. and m. ii of staphisagria three times a day. The acute symptoms readily began to subside, and at the expiration of two weeks prostatic urethral cataphoresis was begun, alternating with rectal. After two months' treatment, he was entirely relieved of all irritation about the prostate. The trouble with his arm and leg was much improved.

Six months after he had returned home I received a letter stating that he had fully recovered the use of his arm and leg.

Case 5.—Chronic enlarged prostatitis, urethritis and cystitis.—This patient, sent to me for treatment by Dr. C. A. Reed of Texarkana, was aged 56, married, had gonorrhea when about 20 years old, and two or three times thereafter. When about 35 he was operated upon for stricture, by internal urethrotomy, which was followed by the introduction of sounds. Several years thereafter he was again operated on by the same method, using sounds afterward as before. During most of this time the urine passed with difficulty, attended with pain, and at times necessitating the use of a sound to void it at all. There was numbness of the left side, with impaired use of both arm and leg. On the introduction of a No. 12 *f.* bougie, it was arrested at the prostate, and following its withdrawal were several drops of pus, which evinced the fact that it had entered a prostatic sinus, as a large instrument would enter the bladder with ease.

The case was treated in a similar way to the preceding one, for three weeks, when he had to return home before I had completed the treatment, though the urine was passing without any discomfort. I received a letter from Dr. Reed some time after stating that the patient had entirely recovered and was as well as he ever was, and there was no necessity of his returning.

Similar cases to those reported have come under my observation in men about middle age, in whom there would be a mucopurulent deposit in the urine, and because of its albuminoid reaction, they had been treated for Bright's disease of the kidneys, when it was only the mucus and pus from the bladder or prostate. This error in diagnosis is not confined to the so-called "country doctors," but I have seen several cases that had been treated for years by some of our most prominent physicians for Bright's disease, when the urine would clear up just as soon as the local trouble was relieved. It is a common practice to wash out the bladder where there is much deposit in the urine, in cystitis. I did it myself for quite a while, until I found that in the large majority of cases it did more harm than good.

Cystitis is rarely an idiopathic disease, but is almost invariably the result of urethritis, prostatitis, or some abnormal condition of the urine. The daily passage of instruments through an inflamed urethra and prostate, for the purpose of washing the bladder, keeps up the tenderness of the former, and the condition is aggravated. The cystitis will be allayed just as soon as the cause producing it is removed. If due to prostatitis or urethritis, they must be relieved first. If to the urine, which is rare, it must be corrected.

IMPOTENCY AND SPERMATORRHEA AS SEQUELS OF PROSTATITIS.

The habit, common among members of the profession, and especially the "quacks" of the country, of giving aphrodisiacs for impotency and spermatorrhea due to prostatitis, is a pernicious one. The baleful effects of the stimulating properties of medicines upon the diseased glands are evident to any intelligent physician. It is often the case that the first indication of disease of the prostate is impairment or loss of all sexual desire, and medicines given for the purpose of exciting activity of the organs only serves to aggravate the local conditions.

Case 6.—Impotency, spermatorrhea, urethritis.—A clerk, aged 33, single, with venereal history, had for many years been in the habit of injecting a solution of sulphate of zinc after each act of illicit intercourse, to prevent contracting disease. This had caused urethritis and prostatitis, and sexual impairment gradually came upon him, so that, for two years prior to consulting me, he had been totally impotent. Seminal emissions occurred involuntarily both at night and during the day. He had been treated by means of constitutional medication for several years, without relief. There was a whitish discharge while at stool. He was very despondent, and took very little interest in business. He had been engaged to be married for several years, and had postponed the engagement from time to time, until, as he said, he could do so no longer. I found the urethra inflamed and sensitive from the meatus to the bladder, and especially so in the prostatic urethra.

I relieved him of the local trouble, and in a short time he was entirely restored to health. He married very soon after, and now has a "house full of children." He has never had any recurrence of the trouble.

Case 7.—Partially impotent, sterile, urethritis.—A merchant, aged 35, had been married ten years, with no children, and had had an attack of gonorrhea when about 20, but he thought he had fully recovered, although it lasted a long time. He had never had any obstruction in voiding urine, though at times it would be frequent and was attended with slight irritation, which usually passed off in the course of a few days. Erections were imperfect, and there was an early ejection of semen, often before intromission. Upon examination I found prostatic urethritis and tenderness of the prostate gland. He was treated in the usual way.

In less than twelve months after being treated, his wife was delivered of a healthy girl baby. He has had no trouble since, and says he feels like a different man.

Case 8.—Impotency, phimosis, prostatic urethritis and prostatitis.—A merchant, aged 52, consulted me for retention of urine and dysuria. He had been married eighteen years, with no children. He complained of having been annoyed by frequent micturition all his life; was delicate, and small in stature. For ten years he had suffered from attacks of dysuria, which had been accompanied by retention, at intervals, for three years before the time he consulted me. Upon examination I found the glands very red and tender, the meatus contracted, and an excessively inflamed urethra and prostate. He had been totally impotent for four or five years, and never had a perfect erection in his life. I circumcised him, and relieved the prostatitis and urethritis. He remained under my care two and a half months when he returned home. He was very timid and never liked to be questioned about his trouble. After the third week he passed urine better and less frequently than he had during his life, and continued to improve in general health.

I have not heard from him directly, but I learned through one of his neighbors, whom he had sent to me for similar trouble, that he was looking better than he had ever seen him.

Case 9.—Impotency, prostatitis, dysuria.—A lawyer, aged 65, consulted me for dysuria. He had been troubled with difficulty in voiding urine, at intervals, for ten years. His sexual vigor began to fail about the same time, and was totally lost a few years after. I treated him for prostatitis and painful micturition without reference to the existing impotency. After the third week of treatment, he told me, apparently apprehensive of something serious, that he had begun having erections every morning, and that he thought that he had passed that stage some years ago.

The cases with which I have the most trouble, and those that can never be entirely restored, are the ones that have been operated upon by external urethrotomy and perineal section, severing the prostate gland.

Chronic prostatitis often gives rise to cerebrospinal irritation, and as a result paresis or paralysis of one side or the lower extremities.

No. 1201-1202 Chemical Building.

PREVENTION OF HAY FEVER.

BY ALEXANDER RIXA, M.D.

NEW YORK CITY.

It is interesting to note the immense progress medical science has made in the investigation concerning the etiology, pathology and therapy of that obscure disease called hay fever. A survey of the results achieved in the last few years, in connection with a brief historic review, is highly interesting and instructive.

Presumably the term "hay fever" originated in the early belief that the emanations of the new-mown hay are the cause of the disease. Hay fever is an ancient disease. The first case was reported by Botallus as early as 1565, although the early writers did not recognize it as a distinct ailment, until Dr. Bostock of London published a series of essays on the subject from 1828 to 1835, in which he describes it as a distinct, periodic, autumnal disease, which, according to his claim, is caused by the united efforts of *moist heat, sunshine, dust and fatigue.* Dr. Elliston of London opposed this theory and asserted that the affliction is caused by the pollen of some flowering plants. Dr. Phoebus of Germany considered ozone as the causative principle, while Dr. Pirrie advanced the theory of nervous origin, claiming that the ailment arises from the action of light and heat upon the central nervous, the cerebrospinal and sympathetic systems. The savant, Helmholtz of Germany, a hay fever sufferer himself, found some vibrios, certain micro-organisms, in his nasal discharges, which he claims to be the active cause of the disease. Dr. Blackly made extensive experiments with the pollen of flowering plants, and thus furnished conclusive evidence that the action of the pollen of certain plants upon the mucous membrane of the nasal cavity, are the exciting causes of hay fever, and that none of the other agents, such as heat, light, dust, ozone, or odors would of themselves cause the affliction. Others, again, believe that the inhaled pollen of the ragweed generates a certain toxin, which develops in the alkaline secretion of the nose, by a fermentative process, and thus forms the active principle and cause of the disease. Dr. Arnold maintains that it is not the healthy pollen which produces the disease, but some fungoid growth, which floats with the pollen.

Dr. Strangeway, in his highly interesting researches, furnished us with the points regarding the amount of pollen in the air. He considers the amount entirely too small to be able to cause an injurious, mechanic, medicinal or poisonous influence. He found but one ragweed to every square foot of surface. The elevation to which pollen floats is about 1000 feet, at which elevation, however, it will be found only in the proportion of one pollen to fifteen or twenty billion parts of air. Furthermore, he found but one grain of pollen for every thirty respirations. He concludes, therefore, that this small amount of pollen can not act as a direct irritant to the mucous membranes, and that a protoplastic substance found in the pollen acts as a ferment, thus causing the formation of a toxin, which is the actual exciting cause of the disease.

The ingenious researches of Dr. Blackly gave the impulse to my experiments, principally, with the pollen of the much and justly blamed ragweed, hogweed, Roman wormwood (*Ambrosia artemisæfolia*). I found that by inhaling them through the nostrils, they will produce the symptoms of genuine hay fever. However, not satisfied with this solitary proof, I requested the support of some of my friends, and they cheerfully submitted. To my satisfaction, I found that in every instance I was able to produce the aggravating symptoms of hay fever in a measure proportionate to the quantity of the inhaled pollen, as well as to the susceptibility of the individual thus subjected to this test. As a matter of fact, after this gratifying result, there was no doubt in my mind that the pollen of the ragweed is the principal cause of hay fever. However, its mode of action, or the changes it undergoes on the mucous membrane of the nasal cavity, notwithstanding my searching macroscopic and microscopic explorations and examinations, thus far, I have not been able to ascertain. Dr. Shoeney, a very efficient microscopist, is kindly giving me his assistance in this gigantic venture, and we flatter ourselves with the hope that in some future day our labors will be rewarded and crowned with success. However, as it is conceded nowadays that a certain morbid condition must be in pre-existence where the germs may find a prepared soil for their damaging action, this artificial hay fever was of but short duration, notwithstanding that in my own case I used no remedy to mitigate or abate the irritation. Considering, therefore, that every individual is exposed to the inhalation of this pollen, there can be no doubt that a morbid condition must be present where the seed finds a prepared soil for its development or generation.

My first essays on this subject were published in *The Therapeutic Gazette*, May, 1890, January, 1891, and December, 1892, and in *The Medical Summary* of Philadelphia, December, 1894. Therein I enunciated my theory and method of treatment. From the time I found the pollen to be the exciting cause of the disease, I concluded in a logical way upon the proper treatment. I conceived the idea of rendering the receptacle aseptic by preparing the soil for the reception of the pollen. Naturally, they will find no proper soil for a possible generation, propagation or development, destroying their existence in embryo, so to speak, and with it the real cause of hay fever. For this purpose I decided on the following treatment:

About two weeks before the onset of the disease I commence to irrigate or sterilize the nasal cavity and the post-nasal spaces with a harmless antiseptic solution, using the douche and atomizer. After giving a great number of antiseptics a fair trial, I decided on hydrozone, as the most innocuous and most powerful germicide. Hydrozone is a 30-volume aqueous solution of peroxid of hydrogen. At the beginning I use irrigation in the proportion of one ounce of hydrozone to 12 ounces of sterilized water. Nearing the period of the expected onset of the disease, I increase the dose to 2 or 3 ounces of hydrozone to 12 ounces of the sterilized water, according to the severity of the disease, using the douche, either tepid or cold, four times a day—morning, noon, evenings, and at bedtime—while during the intervals I use the atomizer, with a solution of hydrozone and pure glycerin, or sterilized water, 1 to 3, thus keeping the nares perfectly aseptic, during the entire period, and preventing the outbreak of the disease in consequence thereof.

In most obstinate cases, when there is still some irritation in the nasal cavity, I give the following prescription:

℞	Acid boracic	gr. xx	1 30
	Menthol	gr. iv	26
	Glyco-Thymoline	℥ii	7 80
	Sol. Eucain B. 4 per cent. q. s. ad	℥ii	62 20

S.—Use in atomizer.

As a rule this treatment was sufficient to avert the disease and keep the patient in perfect comfort.

With reference to hay asthma, my experience has not been so satisfactory. Statistically, I found 18 to 20 per cent among my patients suffering from so-called reflex or hay asthma. Regarding the theory of the disease, I regret to say that the reflex theory does not agree with my experience in practice. The sensitive area, which is given as the cause of this reflex asthma, is situated, according to Dr. Sajous, "at the posterior end of the inferior turbinated bones and the corresponding portion of the septum," or according to Dr. John Mackenzie, "at the anterior extremity of the inferior turbinated bone." However, the closest rhinoscopic exploration would reveal no pathologic change in the parts aforesaid, and even the electric test would not bring about a reflex attack of asthma. Notwithstanding the missing of this "sensitive area," the reflex or hay asthma appeared on certain cloudy or muggy days, and the patient suffered just as severely as in previous days when hay fever could not be prevented, and displayed its full virulence. However, in the last few years I succeeded, in the milder forms, in averting the paroxysmal attacks, while in the severe cases, I found some remedies to mitigate and shorten the duration of the attack. In my observations of former years I found the duration of hay fever, as a rule, to be six weeks, of which there were two weeks of hay fever proper, two weeks of asthma, and two weeks of bronchitis. I found in this observation that the asthma is caused by an occlusion by a viscid mass of mucus, of one of the bronchial branches, right at the bifurcation. Sometimes I succeeded in dislodging this wedge with a large dose of Javanese ipecacuanha, and the asthma disappeared as if by magic. At other times, no amount of expectorants would effect a removal of this plug. Being aware of this fact, I reasoned that some remedy which would constantly keep the bronchial mucous discharges in a liquefied condition might prevent the occlusion of this bronchus; consequently I tried a number of drugs, until I found the terpin hydrate in large doses acting charmingly for this purpose. I administered it in tablets in 10-grain doses, every three to four hours, two weeks before the asthma period, and later, every two hours. However, if, in spite of this preventive treatment, a paroxysmal attack occurred in cloudy weather, I prescribed large doses of iodid of potash with some expectorant syrups and fl. ext. of quebracho, or grindelia robusta, with lobelia and belladonna, which usually sufficed.

In some rare, obstinate cases, I derived gratifying results from the application of Dr. Chapman's ice-bag to the spinal vertebra, from the cervical down to the lumbar region, leaving the bag *in situ* for an hour or longer, if required. Hot drinks with whisky or brandy have a beneficial stimulating effect at this period, and also the old-time remedy of placing both hands in hot water gives prompt relief. In the bronchial stage, a similar treatment to that used in the idopathic form of bronchial catarrh is indicated.

In closing this paper, I wish to establish herewith my priority to the claim of having been the first to advocate irrigation and sterilization, in order to prevent hay fever, by rendering the parts aseptic. My first article on this subject, under the heading "How to Prevent Hay Fever," was published in *The Therapeutic Gazette*, January, 1891.

109 East 83d Street.

DENTAL SEPTICEMIA OF THE ANTRUM.

TWO CASES WITH OBSCURE SYMPTOMS.

Presented to the Section on Stomatology, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

BY V. A. LATHAM, M.D., D.D.S.

CHICAGO.

In presenting these brief notes on such a common subject, I ask the consideration of the Section because it seemed as though the period of life at which the disease occurred, as well as the obscurity of the cases for lack of the usual symptoms, would be of interest.

The cases would hardly come under the term "empyema," unless we accept that definition to be a chronic suppuration, as is usually described in the text-books. C. Heath, in his article on "Diseases of the Antrum," in the "Dictionary of Surgery," speaks of suppuration or empyema of the antrum as being "a form of chronic abscess, but with the peculiarity that the pus is seldom completely shut in, so as to *produce distension*." This statement may be questioned by some when we remember the bulging cheek, even with a copious nasal discharge.

Case 1.—The patient, aged 8 years, was first seen and treated for what appeared to be the usual spring discomfort—general malaise with slight symptoms of la grippe. The mother complained that the child was wakeful and would stay up all night, wandering into the bath room, which was the warmest room in the house, at the early morning hours, and play over the radiator instead of going to bed. On questioning why she would sit up, she said she could not sleep. After some days the mother became anxious and called a physician.

The main symptoms were fever, which varied in degree, more at night, ranging from 99 to 101; a muddy complexion; constipation; gastro intestinal irritation; headache, a trifle off and on; a reddening of the skin over the malar bone; extreme fetor of the breath; heavily coated tongue; no appetite nor thirst, and some nausea; the teeth and mouth showed neglect and were in a bad condition.

The left eye showed catarrhal signs, the conjunctiva being injected and watery. Beyond these symptoms nothing else could be obtained, and the child persisted in saying her teeth were not poor and she had no pain, which statements her family agreed with. The usual treatment by free elimination, mouth-washes and tonics was given and some benefit obtained. A few days later the cervical glands showed signs of swelling slightly on the left side, but were preceded by the submaxillary, and I was asked to see the case. The history as given above was repeated, with the addition that to me the cheek seemed swollen a trifle—the mother thought it natural. After repeated questioning I learned that "This is just the same kind of trouble she had last spring and also the year before, but the face swelled a little the first time, but the Doctor said it was only cold and the grippe and would go away in a day or so, which it did." The child staying awake seemed the dangerous symptom to the parents. The mouth seemed fairly clean. The gland was somewhat swollen and the cervical chain also. The teeth were carious, especially the temporary teeth—the upper on the left side. There was no soreness; never any toothache nor abscesses. On palpation, the cheek showed a slight difference in feeling and sensibility over the malar bone, compared to the right side. The temporary first molar was decayed badly but not at all loose. The gum around was reddened some and, judging the condition was septic, the temperature now rising 1 to 3 degrees, the erysipelatous coloring of the cheek, the general condition and lymphatic enlargement, I opened the temporary molar, found a little thick pus in the pulp chamber and advised extraction, which was done, when more pus came down. The alveolus was cleansed, syringed and probed for evidences of necrosis, but none found. Antiseptic washes were ordered and general remedies. After three days the patient showed more swelling of the cheek, the eye being half closed. The bulging was pronounced, and a globular swelling

showed at the buccal junction of the lip near the extracted tooth cavity. She complained now of "feeling as if she had a cold in the nose," slight periodontitis of the teeth on left side and redness of the gums, but denied pain or headache, much to my surprise. On examining carefully I thought I detected slight crepitation, which led me to suppose the antrum was involved. The symptoms continuing, I extracted the temporary second molar. The cavities of both first and second were thoroughly examined and probed with blunt and sharp pointed steel probes and no necrosis found, but the evidences of roughening of the bone felt. The danger lay in damaging the permanent teeth, but I thought best to open near the median line and just in front of the permanent first molar to the alveolar buccal border, feeling for the cusps of the developing teeth. The cavity was drained of pus, washed with a hot (98 degrees F.) saline solution, followed by borolyptol solution till it came clear. Then some alcohol and cassia oil, which had been thoroughly shaken in hot water, was injected and the opening packed to keep out food, etc. This treatment was continued for two weeks and then at long intervals, and the opening allowed to close slowly. The patient reports good progress and the permanent bicuspid is slowly coming down.

The chief interest in this case lies in the following points:

1. *The age of the child.*—This patient is younger than any other reported case I have found in the literature available to me, except one, viz., the oft-quoted case of Dr. G. A. Rees (*Med. Gazette*, Vol. iv, n. s.), mentioned by Tomes, Smale and Colyer, of a newborn infant.

2. *The lack of the usual symptoms*, more especially the *pain*, swelling, tenderness, the discharge from the nose, roots of teeth, or abscess.

3. *The occurrence of some symptoms later*, after the extraction of the first and second temporary molars.

4. *The periodic recurrence.*—Every spring for three years a similar condition was described by several members of the family; and the insomnia so seldom seen in young children.

5. *The relative position of the antrum* compared to adult life, and the difficulty in entering the same, through

6. *The danger of displacing or injuring* the developing permanent bicuspid teeth.

Case 2.—This patient was a medical student, blonde, aged 23 years. She complained of severe facial neuralgia in the left side of the head. I was informed the patient had consulted numerous prominent physicians, oculists and dentists, and tried various remedies for her trouble. Tonics, outdoor life and change of climate all were tried with the same result, the benefit being only temporary. The neuralgia continued, accompanied by a severe headache, and she finally consulted their oculist, who, in consultation, urged spectacles to be worn, and these seemed to benefit for the time being; then the trouble recommenced with severe earache and taxed the patient's endurance considerably.

The case fell into my hands through a mutual acquaintance who was anxious to get some advice, and I was anxious to see the case for its unusual history.

The patient having been engaged in laboratory work, it was thought the eye-strain was possibly due to the fine work, and so the work was stopped. The eye was injected, as is usually seen in neuralgia of the fifth nerve; some interference of vision. The patient is of the nervous type, has an anxious, worn-out expression, and has had catarrhal trouble in nose and throat. General history was very good outside the usual trouble. The teeth were in good order, three stoppings (of gold) only, in the mouth, one small anterior proximal in the second upper molar, and the tooth seemed a trifle darker in color. This I suspected might be the cause of the trouble, but on testing by the various methods, no evidence of devitalized pulp or hypersensitiveness could be obtained. The third molar was in a fairly good position, though the crown turned toward the buccal fold, erupted fairly and healthy so far as could be learned. On examining with a small electric lamp, the antrum seemed to be slightly opaque. Consultation was held and the attending oculist vetoed the diagnosis of antral trouble—inflammation—but the family physician agreed with me that there was a possibility of its being the cause of trouble and, as there was small danger in making an exploratory incision, the patient gladly consented, and, as she was becoming emaciated, nervous, and was suffering severe pain, we punctured through the canine fossa, obtaining some serous fluid with some flakes of fibrin. Covers were spread and a culture made, the result showing streptococcus pyogenes albus, blood cells, epithelial cells, mucous and salivary corpuscles, mixed with micro-organisms and pus germs.

The opening was enlarged, washed with hot saline solution and then with mild antiseptic solutions, and a fine silver tube tied in. For two days the discharge continued and the patient complained of severe earache and pain in the eye. The tube was cleared, and a thin creamy pus oozed out, with small pieces of gelatinous tissue resembling the myxomatous structure of a polypus. The opening was enlarged, a flexible probe passed through and the surfaces carefully examined. The mucous membrane appeared to be somewhat thickened, and over or about the position where the roots of the third molar tooth would lie, there seemed a nodular place with some softened tissue around. The antrum was again cleansed and then touched with carbolic acid and iodin, followed by a curetting, the fresh surface being washed with boric acid and 0.1 per cent. formalin (of 40 per cent. strength sol.), then cauterized with iodin, and the tube inserted and plugged. The third molar was extracted, for fear it was abscessed, although seeming healthy. The pushing up and engaging of the forceps caused the crown to break very easily, and on examining the tooth a large cavity with carious material was found, but the nerve was not exposed, and the tooth alive. The root is curved and slightly roughened on the apical knob, and evidently was the one felt in the antrum, and by pressure was causing necrosis and absorption.

The patient progressed well, though slowly, under tonics, local antiseptics and packing, and at the present time, nine months, has had no recurrence of the neuralgia. An interesting point is the cause of such severe pain in that region and what caused the carious tooth, for the coronal surface showed no evidence of fissures or cavities, as was testified to by a number of the examining physicians and dentists! There was no history of abscessed teeth, soreness or pain in any particular tooth, neither was any sensitiveness found with electricity, ice or percussion. Neither was the cheek swollen.

THE MEDICAL PRACTICE ACT OF INDIANA.

SOME COMMENTS THEREON.

Read before the Mitchell District Medical Society, at New Albany, Ind. Dec. 29, 1898.

BY W. W. VINNEDGE, M.D.

LA FAYETTE, INDIANA.

The common law is a true reflection of social conditions. By it the people express their accumulated opinions. It is an index to the past and must mark our progress in the future. The common or unwritten law is supposed to be founded upon the imperceptible growth of the usages and conventionalisms of men, maturing little by little until, in theory, it becomes as is said, the perfection of reason; while statute or written law is the abrupt expression of the legislative will founded upon the accumulated opinions of the people. The one corrects evils and supplies needs by slow processes; the other overturns, alters, and invents remedies, as occasions arise; and its enactments are wholesome and beneficial or otherwise, according as the legislative mind is intelligent and pure.

No matter what our individual ideas may be, whether of social or professional conditions, we must accept, for the time being at least, the test found in fact—in the acts placed upon the statute books by our lawfully chosen representatives. Still we are not forbidden the right to comment or condemn, or correct if we can. Error may be tolerated, so long as reason is left free to combat it.

The liberal professions have by no means been free from infirmities or exempt from dangers; and the medical profession especially has called long and loud for safeguards and protection.

The question of what shall be the standard of qualification to practice medicine in this State, as well as in our neighboring States, appears to be an ever-present one; it will not down, but like the ghost of fancy, reappears in the meetings of medical organizations and in legislative bodies with never-failing frequency. The Association of American Medical Colleges discusses it and seeks to fix a standard fairly uniform as to qualification, but when the legislatures undertake to formulate a standard of qualification in the public interest, their work is too often a mixture of the good, the bad, and the indifferent. Our present Medical Practice Act is an example of this, I think. Perhaps nowhere do the currents and counter-currents of opposing organized professional interests, the indirect interests of medical colleges joined to the all-important public needs, furnish a more pronounced example of legislative perplexities than by it. I can only undertake to comment briefly on some of the underlying principles with which it has to do.

I think it is becoming apparent to the professional public that the legislature of the State will become more and more a factor in regulating and fixing the standard of qualification to practice medicine, while medical colleges and the organizations of the different medical sects or so-called "schools," will become less and less a political force to influence it. I am sure the medical colleges, holding membership in the Association of American Medical Colleges, enjoy the confidence and esteem of the professional public, so long as they keep to their proper work, but when they unite the licensing function indirectly to their legitimate duties, the confidence and esteem of the professson as a whole must and does cease to exist. There is no question in my mind that the enactment of a law to regulate the practice of medicine, surgery and obstetrics was a public necessity, and I have nothing but words of praise and sympathy for our State Board of Medical Examination and Registration in its efforts to apply it to the public use.

Let us consider a few of the salient features of the law sections in order to draw attention to it as it is, and at the same time for the purpose of showing what we believe and wish it to be.

Taking up Section 2 of the Act, I object to the diploma in the possession of any one as his personal property being made the deciding power of his qualification for practice. Every applicant for a license to practice medicine, surgery and obstetrics in this State ought to go before the State Board of Medical Examiners and undergo his examination. If he falls short of success let him or her take the consequences; if he succeeds, very well.

The diploma is all right enough in its place, as an expression of academic progress, but let it not be made the certain certificate of that high qualification necessary to deal with the lives and bodies of men and women threatened by disease and death. Let the incentive be to meet well the inquisition of a medical examination rather than to obtain a speechless diploma, and then the attainments of its holders will, without doubt, be of a higher order.

How can or does our State Board of Medical Examiners obtain judicial knowledge of all or even part of the 160 medical colleges, more or less, of the country? What good evidence has it to consider, such as a court of justice would accept as competent evidence, as to the respectability of medical colleges at either extreme of the country geographically?

But to my mind another objection to the section is absence of good form from its diploma feature. Medical colleges furnish the diploma to candidates for the degree of M.D. for merit and a money consideration, and although the consideration is not, in respectable circles, one of purchase in any sense, it is nevertheless a fee, a consideration, and therefore furnishes a reason why the diploma in the possession of a candidate for a license before the State Board of Examiners should weigh only to a degree in his or her favor. If it does more than this, as now, the element of doubt and distrust as to the law is bound to find lodgment in the minds of members of the profession, as well as the thinking public.

Section 4 says: "Within thirty days after this law goes into effect it shall be the duty of the Governor of the State to appoint a State Board of Medical Examination and Registration," etc. . . . "No school or system of medicine shall have a majority representation on such Board." And further on: "Each of the four schools or systems of medicine having the largest numerical representation in the State shall have at least one representative on said Board."

Now look into this scheme critically and fairly. Here are the great professional organizations of the State united in a legal alliance. We know these medical sects or so-called "schools" or "systems of medicine" are not joined together because of love and confidence in each other. Then why are they so joined? For no other reason than to protect the public against *shams*, against quackery. And yet the question is frequently asked: Why is the social status of the medical profession so low? I will say that a statute built upon such a foundation as is this is not destined to enjoy long life; that it will not be classed by the future historian as the perfection of reason in law.

Again, in our applications for a license to practice our profession under the Act, we are met at the threshold, so to speak, with this proposal for information for record, thus, "I wish to be classed as a member of —— School." If the teachings of such great lights as the late Dr. S. D. Gross, Dr. N. S. Davis, and many other distinguished men in the profession are sound as to principle, this feature of the law is unsound and undignified, and in time must be injurious to the profession and the people. It tends to foster medical sectarianism, narrowness of thought and encrusted prejudice, and to prevent the unification of scientific investigation.

Passing now to the consideration of Section 5, I shall briefly refer to that clause which declares that the State Board of Medical Examiners "is charged with the duty of enforcing this Act, and it shall be the duty of the prosecuting attorney, upon the complaint of the Board, to prosecute any violation of this Act." This section should be amended, it appears to me, at the earliest practicable moment, by subjecting persons suspected of practicing medicine unlawfully to an examination under oath, before the grand jury if practicable, as to their rights and qualifications, etc. In its present state, the member of the State Board of Medical Examiners who files the formal information, to set the legal machinery in motion, is frequently exposed to unpleasant notoriety, if not

scandal, for instituting proceedings against a competing practitioner; he is almost sure to be charged with malicious persecution of a competitor, by the newspapers and by the unthinking public—with moving against his neighbor from motives of rivalry and jealousy. If the enforcement of the law were made inquisitional, in the grand jury room if possible, it would do away with unpleasant notoriety, if not positive injury to the operations of the Act.

It is certainly unfortunate for the people that Section 7 of the Act does not do away with the itinerant pretender of wonderful cures, and of the flambeau and night noises of the street vender of uncertain nostrums, and of female peddlers of devices and drugs intended for nefarious uses. But it does not, for Attorney General Ketcham, referring to this question (State Board Report, 1897, p. 427), says: "I think a licensed physician has a right to practice anywhere in the State. He can have but one residence at which he is required to take out a license, but I see no reason in the law why he could not maintain any number of offices if he feels so disposed. It is not where he maintains his office that he is required to take out his license, but where his residence is, and it might well be that a physician should prefer to live in one county and yet have his office in another." So this Act is no bar to the wanderings and pretensions and peculations of the charlatan and the strictly commercial physician.

The ethics of the profession, which discountenances quackery and fraud, is sound in principle and ought to be sustained both for its dignity and usefulness and for the protection of the people. It does not follow that because some of these loquacious itinerants may be men of fair attainments, they do not practice impositions upon the ignorant and incredulous. Tolerate the practice of such men, and little by little the profession at large suffers in public confidence and esteem.

It seems strange to me that the Act which undertakes to curtail the defects of persons who may become practitioners of medicine in the State is strikingly silent as to the elementary educational qualifications of licentiates. That some such practical attention should be given applicants for license may be gleaned from the following report (Happel on Medical Legislation, Tenn., May 13, 1897, p. 9): "The query has frequently been raised in our meetings as to how it was possible for some young men who have been before us to have entered a medical college, in the face of the requirements printed in their catalogues as prerequisites to entrance upon a course of lectures. They could not write correctly the printed questions before them, and their answers could not be interpreted by any one not a physician. Spelling and writing were alike undecipherable. It is irrational and unreasonable to suppose that persons as illiterate as these examinations have proven some to be, could intelligently read any medical work."

Tennessee is not a great distance from Indiana. I shall not institute a comparison as to the attainments of medical students and practitioners in the two States. For the present I suppose we will have to look to future reports of the State Board of Medical Examination and Registration for definite light on this point as to this State.

In conclusion, I believe it is not too much to say that the present Medical Practice Act of this State will require early and liberal amendments on the lines suggested, in order to be continued as a useful and forceful law on our statute books. We must, as a profession, exercise more simplicity, more directness in our efforts to obtain legislation in behalf of the people and the profession, in order that our work as such may survive us and prove a blessing to both.

RECAPITULATION.

1. To provide that no one shall be granted a license to practice medicine in the State until he shall have passed a satisfactory examination and been so certified by the State Board of Medical Examination and Registration. The licensing power should be furnished a face-to-face opportunity to scrutinize the general and moral character, as well as the preliminary educational training of aspirants for a license.

2. To do away with all distinguishing titles in name, both in the State Board of Examination and in the proceedings to obtain a license, and everywhere else. In order to do this and to harmonize the opposing sects and factions, let all reference directly or indirectly to the subjects of materia medica and therapeutics as to the application of drugs as remedies be eliminated from the statute. The State Board of Medical Examiners could easily estimate the character and qualifications of an applicant for a license with this omission.

3. To give less prominence by name or class, to medical colleges, and more to actual attainments; to bestow a higher estimate upon thoroughness of examination than upon parchment certificates. I would not belittle the diploma, but it speaks with no voice, and is of the same significance whether in the hands of one or another. Let it be presumed that all reputable medical practitioners in the future will possess a diploma from a respectable medical college, or possess a medical education that will obtain one for him if he seeks it.

4. To make real or supposed infractions against the law actionable through inquisitional process, through findings in the grand jury room if possible; if not possible there, then by some appropriate arrangement before some other suitable tribunal.

5. To furnish some remedy by which the itinerant doctor, the street nostrum auction vender, the woman peddler of nostrums and appliances intended for nefarious uses, shall be banished from the State as such.

SOCIETY PROCEEDINGS.

Chicago Society of Internal Medicine.

Regular Meeting, Dec. 22, 1898.

Dr. JOHN H. HOLLISTER occupied the chair in the absence of Dr. John A. Robison, president of the society.

Dr. WILLIAM J. BUTLER read a thesis entitled

THE PRECORDIAL AREA IN CHILDREN RANGING IN AGE FROM SEVEN TO PUBERTY, AND ITS RELATIVE VALUE IN THE DIAGNOSIS OF HEART LESIONS IN CASES PRESENTING SYSTOLIC MURMURS, ESPECIALLY IN CHOREA, ANEMIA, ETC.

While it is generally accepted that the precordial area in a child is relatively larger than that in the adult, no special study with a view to determine its accurate limit seems to have been made in earlier years. Smith, in his work on "Children's Diseases," states: "The position of the heart in childhood has not been hitherto sufficiently understood," and quotes from the more recent anatomic studies of Symington, who found that the position of the heart and great vessels is, normally, practically the same as in the adult, but says that the cardiac impulse in infants and children usually takes a more external position than in adults and that it is usually in

the nipple line or may extend one and one-fourth inches beyond it.

Rotch is inclined to think that in the first few years of life the apex is higher, but later assumes the position found in the adult, or even lower if the inferior portion of the sternum has been slow in developing.

Holt quotes directly from Sahli, whose diagram he presents, and gives the area of relative dulness as commencing above in the second interspace or the lower border of the second costal cartilage to the right, at the parasternal line, or slightly beyond it, to the left at or slightly beyond the mamillary line, this depending on the age of the child, the variations at different ages not being mentioned. The area of absolute dulness he gives as the upper border of third intercostal space, sometimes third costal cartilage, to the left at a point between the parasternal and mammary lines, to the right, the left border of the sternum.

To Whitney must be given special credit on this subject, so far as area of relative dulness is concerned. He has found that the enlarged precordial area in a child is first noticed at the sixth year and continues until puberty. He uses the diagram prepared by Weil, who states that the enlarged area indicated in the same persists to the fourteenth or fifteenth year. The area of relative dulness given by Whitney is as follows: Upper border, second interspace; left border, one-fourth to one-half inches outside the mamillary line; right border meets the liver dulness at one and one-fourth to one and one-half inches to the right of the median line. It is to be noted that Whitney deals entirely with relative dulness. Sahli has pointed out that too much reliance can not be laid upon the relative heart dulness in children, as it may be taken beyond the actual cardiac limit, because of the thin and yielding chest wall found in children, and the thin layer of lung tissue lying between the heart and chest wall through which an airless organ like the heart resounds beyond its actual limit, notwithstanding caution in regulating the intensity of percussion. Kovacs likewise teaches that the only reliable sign in determining cardiac area, so far as the diagnosis of cardiac lesions is concerned, is the position of the apex-beat and the lines of absolute dulness. Neusser also lays special stress on the position of the apex-beat in determining the heart limit to the left.

A factor of considerable importance in children is the position occupied during examination, i. e., the erect or recumbent position. Sahli states that the heart is fairly constant as to its position in the erect or recumbent position in the adult. In children, there does, however, at times, as observed by Cotton, seem to be a difference in the position of the apex-beat in the positions mentioned. Special attention has been attracted to the subject of this paper in Professor Cotton's clinic, at Rush Medical College, because of the noted marked variations in the position of the apex-beat under normal conditions in children, as observed during the methodic physical examination of the same, likewise to the auscultation of the heart in such children and longitudinal level at which the absolute liver dulness begins. The latter was noted because of its being the index as to the position of the diaphragm, which at times is responsible for variation in apiceal location, and also with a view to confirm the observations of Sahli; viz., that the liver dulness commences on a level corresponding to that in the adult, that is, in the lower part of the fifth interspace or on the sixth rib.

In order to arrive at something definite as to the normal limits of the cardiac area in children above the age of 7 years, or rather the limits which occur in normal children during these ages, for purposes of comparison, and to illustrate the points mentioned above, a number of normal cases were selected and carefully examined, the methods of examination employed being those that usually obtain in determining these results. We will only mention the limits of relative dulness outlining the upper and right borders and the position of the apex beat, the latter being accepted by Kovacs, Neusser and others as the limit of the heart:

Upper border.—Erect position, relative dulness; second intercostal space in 42 per cent. of cases; third rib in 52.6 per cent. of cases; second rib in about 5 per cent. of cases. No variation observed as to foregoing in recumbent position. Absolute dulness; third rib or third intercostal space in 20 per cent. of case; fourth rib in 80 per cent. of cases.

Right border.—Taken on a level with fourth interspace, erect position; relative dulness: Sternum and one to one and a half fingers' breadth to right of right sternal border in 52.6 per cent. of cases; sternum in 22 per cent. of cases; no relative dulness observed in 20 per cent. of cases. Recumbent position: In 33 per cent. of cases the relative dulness was less marked. Absolute dulness: Invariably on left sternal border.

Apex.—Erect position.—In fifth interspace in 78.9 per cent. of cases; behind the fifth rib in 5 per cent. of cases; in fourth interspace in 16 per cent. of cases. Erect position; fifth interspace: Inside mamillary line in 27 per cent.; inside and extending to or into the mamillary line in 47 per cent.; inside and outside the mamillary line 26 per cent. of cases.

Those found behind the fifth rib in the erect position were usually inside or in the mamillary line. Of those found in the fourth interspace, two-thirds were inside and one-third outside the nipple line. In 21 per cent. of the cases the apex in the recumbent position withdrew itself behind the fifth rib or into the fourth interspace.

Auscultation.—In 31 per cent. of cases pulmonary second tone louder than aortic second; in 5 per cent of cases aortic second tone louder than pulmonary second; in 5 per cent. of cases both louder than usually found. Accidental systolic (or so called hemic) murmurs heard in 31.6 per cent. of cases; 83 per cent. of these heard loudest over the base; 17 per cent. louder over the apex.

Liver dulness.—Lower part of fifth intercostal space and fifth rib in 70 per cent. of cases; fifth rib in 30 per cent. of cases.

We concluded that the most frequent position of the apex in children of these ages is in the fifth interspace and that about one half of those so located are found inside and extending to or into the mamillary line; that about one-fourth of the cases appear entirely within the mamillary line and that the remaining cases occupy a position to the extent of the breadth of a finger or finger and a half outside the mamillary line. It is further noted that the apex is far less often found in the fourth interspace and behind the fifth rib in the erect position; further, that where the apex is found in the fifth interspace in the erect position, in about 20 per cent. of the cases it ascends behind the fifth rib or into the fourth interspace in recumbency.

Gierke examined fifty children at ages varying from 8 days to 18 years, and found the apex beat in the intercostal space in thirty-eight of these; in the sixth, in six of them; and in the fourth, in two, while in three it was behind the sixth. In these fifty cases he found the apex in the nipple line in forty-four, in fourteen outside and in two inside this line. Sahli gives the results of his observations on eighteen children at ages varying from 9 months to 12 years. In ten of these the apex beat was in the fifth interspace; in five, in the fourth, and in the remaining three in both the fourth and fifth. Steffen gave the normal position of the apex-beat as being in the nipple line or slightly external to it. Rauchfuss, while agreeing generally with Steffen, stated that he had known a good many cases in children 11 and 13 years of age, in which the apex was 2 cm. external to the nipple line. Symington states that since the vertical extent of the heart in relation to the anterior chest wall is practically similar in childen and adults, it will naturally follow that the transverse diameter of the heart, as compared with that of the chest, is relatively greater in the former (in which the characteristic features of the thorax is its narrowness from side to side) than in the latter.

According to Sahli the apex in the healthy adult is located in the fifth interspace, somewhat inside the mamillary line. In children he asserts it can extend physiologically—not mentioning in this instance the longitudinal level—beyond the mamillary line. He further states that displacement of the apex to the left, where other causes can be eliminated as producing it, indicates dilatation of the left ventricle. No less difficult than the accurate calculation of the normal apex-beat, is frequently the interpretation of the auscultatory signs of the child's heart. As stated, one or two loud tones at the base are not at all uncommon. Then again, how frequently we hear systolic murmurs over the heart of a child, most frequently loudest over the base, but occasionally loudest over the apex. According to Sahli, the differentiation between accidental (under which we include all murmurs not organic or pericardial) and organic murmurs is possible when all signs, besides murmurs, fail which we value in the special diagnosis of valvular lesions. It is, therefore, not improbable that the liability to error in the diagnosis of heart lesions in children is greater than that in the adult, because: 1, the heart area in an adult is fairly constant; 2, the heart area in children may vary considerably, especially the position of the apex; 3, the basic tones in a child are not infrequently loud, especially the second pulmonic; 4, because of the occurrence of accidental murmurs, probably more frequent in children.

Leube states that the diagnosis of endocarditis bases itself in the first place on the objective findings of the heart. How easy, therefore, to diagnose heart lesions in children presenting the findings mentioned above as occurring in normal children; namely, the apparently displaced apex, where the same is compared with the location of the apex in the adult; the loud second pulmonic sound and systolic murmur, especially where

reinforced by the existence of a favorable etiologic factor, as chorea. That chorea is frequently associated with rheumatism and hence endocarditis, is well known, but there is a large proportion of chorea cases in which rheumatism is not traceable, and on the other hand, rheumatism is by no means always associated with endocarditis. Chorea frequently occurs in anemic children, and in this condition systolic murmurs are frequent phenomena, likewise a loud pulmonic or pulmonic and aortic tones. It is to be noted that the most frequent valvular lesion made out in these cases is that of mitral insufficiency, which arises not from the fact that that is the most frequently acquired valvular lesion, but that conditions favorable for its diagnosis are most frequently present, as accidental diastolic murmurs are great rarities. According to Kovacs, the diagnosis of mitral insufficiency is the most difficult, at times, of all acquired left heart lesions, and yet how apparently easy where so frequently diagnosed.

We believe that the conditions mentioned, which are inviting to the diagnosis of a mitral lesion, together with our tendency to compare the cardiac area in children with that found in the adult and the more frequent occurrence of accidental murmurs in children would explain a great number of the heart lesions diagnosed in chorea and other conditions which may or may not be associated with anemia.

We will again revert to the relative dulness outlining the precordial area in children, especially to the right. In the majority of cases above the sixth or seventh year, a relative dulness is observed over the lower part of the sternum and very frequently to the extent of one to one and one-half fingers' breath to the right sternal border. This is the usual finding in normal children of the ages mentioned, and from it can be deduced nothing pathologic so far as the right ventricle or pericardium are concerned. Possibly in suspected pericarditis this might be misleading, but the fact that it occurs normally and that relative dulness is unreliable in accurate heart diagnosis in children, leaves little room for error unless the effusion is small and adhesions between pericardium, pleura and chest wall exist, which can be readily excluded or confirmed by testing the respiratory excursion.

In conclusion, we would call attention to the relatively small valve of the relative cardiac dulness in children during these ages, and of the supreme importance of apiceal location, the variations in the positions of the same in normal children during these ages, that it may extend the breadth of a finger to the left of the upper line, and the not infrequent occurrence of bad basic tones and accidental murmurs under normal conditions.

Dr. JOHN H. HOLLISTER—I would like to ask Dr. Babcock if in his study of children this subject has been brought prominently to his attention, and to what extent the statements made by the essayist are in consonance with his own experience.

Dr. ROBERT H. BABCOCK—It has not been my fortune to see as many healthy children as men who are engaged in general practice, and particularly those working in the line of diseases of children. I do not think my experience would be valuable on the subject, for that reason. But I am very much surprised, and find myself at a loss to understand why there should be such a deviation in the size of the heart in normal children. And the query has suggested itself to me a number of times, and particularly when I heard Dr. Whitney's paper at Denver, whether there were not accidental conditions which would deceive us in the determination of the actual size of the child's heart, for instance, the position in which the child stands. If a child stands in such a way as to throw the dorsal portion of the column forward and the epigastrium out in an unnatural manner, and not in accordance with the proper mode of standing, it has seemed to me that the heart would be thrown forward against the chest wall and into the sulcus formed by the diaphragm and anterior chest wall in such a manner as to influence the area of cardiac dulness. I have also wondered whether, many times, in supposedly normal children, there did not exist pericardial adhesions, for we know that pericarditis is of very frequent occurrence in children, more frequent, in fact, than it is recognized clinically, and as Broadbent states, pericardial adhesions which may not manifest themselves by any physical signs may yet induce an increase in the size of the heart.

A boy, 11 years of age, was brought to my office yesterday for the purpose of determining the question of whether he had heart disease or not, as it had been stated in Paris a year ago that his heart was enlarged. The area of relative cardiac dulness in this boy was increased. I was not satisfied, however, with determining it simply by the nipple line, but measured the relative cardiac dulness, and found that the left border of the heart reached nine centimeters to the left of the median line; the right border four centimeters to the right of the median line. I regarded it as an abnormally large heart in a boy of 11 years, assuming these measurements to be correct. But we are all liable to error, and these measurements would make the size of the heart correspond with those given for the average heart in an adult. In this boy there was no history of any disease which had or could have led to endocarditis, nor indeed to pericarditis, except, perhaps, a history of growing-pains. The boy might have had subacute rheumatism, and there might have been set up an acute pericarditis which led to adherent pericardium, but there were no signs of it. I was at a loss to explain the size of the boy's heart, but nevertheless gave it as my opinion that the heart was not only large, but that I felt quite sure the relative size between the heart and chest would probably adjust itself.

Dr. E. FLETCHER INGALS—The suggestion that the position of the child has much to do with the position of the apex of the heart is important. From my observation I think that a child under examination seldom occupies a strictly symmetric posture, and it is quite difficult to get it to either stand or sit absolutely erect. As a result, a little twisting to the right or left alters the apparent position of the mamillary line, and consequently the relations of the apex of the heart. The elasticity of the chest wall and the position of the body make a great difference in the resonance over the heart in different individuals, and it is easy to make a mistake unless the examiner is extremely careful. We see cases in which during the first part of the examination the heart appears to extend possibly a long way to the left of the mamillary line; but when we come to feel for the apex and listen to the first sound and again to percuss more carefully, we find material changes from our first impressions, and the heart may not be so much enlarged by an inch, as we had thought. It is claimed that the position of the apex of a healthy heart may extend from an inch to an inch and a half to the left of the mamillary line in some cases as a result of the posture of the patient. I have never seen the healthy apex-beat as far as that from its usual position, and I have not studied children's hearts sufficiently to be competent to say where the apex would be situated in the majority of healthy cases, but I think that some of the difference of opinion on this subject may be accounted for by the facts I have just mentioned. In listening to the paper, it occurred to me that some of the apparently healthy children may have had some diseases that would cause the changes noticed in their hearts. A child with almost any affection that would cause fever might consequently have slight enlargement of the heart that would displace the apex, or it might have as a result some of the murmurs referred to by the essayist. I was surprised at the number of murmurs spoken of in the paper as having been heard in children. Did I understand the essayist right in saying that it was in 80 per cent.?

Dr. BUTLER—I believe I said 30 per cent.

Dr. INGALS—It would be interesting to know to what these various accidental murmurs were due; whether they were the ventricular murmurs which we frequently hear in adults, or hemic murmurs, or whether they were only murmurs that are so easily produced by firm pressure with the stethoscope against an elastic chest wall.

Dr. FRANK BILLINGS—I can not bring any personal information to bear upon this subject, which will be of particular value, because I have never made systematic measurements of the topography of the child's heart. My information of the whole matter has been obtained from personal observation and from books upon diseases of children, my understanding is that, as a rule, the heart of the child lies more obliquely than it does in the adult, because the diaphragm is higher, consequently the apex-beat is practically always found higher in a child than in an adult and farther to the left. I have not confirmed this observation by actual measurements in a number of cases, but I have paid some attention to it when examining children. In examining the heart of any individual, the child included, the presence of a murmur, perhaps without collateral signs, is not sufficient necessarily to enable us to make a diagnosis of accidental murmur. The belief of clinicians and pathologists today is that in many instances, both in children and in grown people, we may have a mild endocarditis, perhaps a pericarditis, occurring, in which there may not be many clinical signs, but afterward perhaps some slight roughening of the endocardium, or slight valvular leakage, which is not necessarily associated with hypertrophy, dilatation, or any other sign which is so often the sequence of a severe valvular lesion. Those who have practiced among children will bear me out in this statement, that many times pericarditis occurs in children in which the only evidence is a febrile disturbance, a rapid heart, much dyspnea, but absolutely no *physical signs* except rapidity of heart. The same is true of endocarditis, with less emphasis upon the rapidity of the heart and dyspnea. I believe that in

many of the infectious diseases, such as measles, whooping-cough, etc., we may have a mild form of endocarditis which is sufficient to produce either hypertrophy or dilatation of the heart, which may not become permanent, but at least exist for a time. Furthermore, in children who are vigorous and otherwise healthy, particularly in boys who play and romp a good deal, occasionally those whom I have examined have shown dilatation of the left ventricle, due, I think, to the resistance offered by the blood. In examining children for the location of the heart, all these things should be considered, and while I fully appreciate Dr. Butler's paper, I should like to know more about the condition of these children, especially of the urine in the cases quoted. As to measles, whooping-cough, and other diseases interfering with the right heart circulation, we know that in measles and whooping-cough, where some resistance is offered to the pulmonary circulation, there may be produced some dilatation of the right heart. While I am not discussing the subject of the paper, and have not made such measurement as would be apropos to the discussion of the paper, still I believe the above-named conditions bear somewhat upon the question.

Dr. FRANK S. CHURCHILL—I think the question of so-called accidental murmurs, sometimes regarded as hemic murmurs, is a very important one. At a recent congress, Soltmann and Hochsinger made the statement that hemic murmurs in children under 4 years of age were extremely rare, and that they were rare even up to the age of 8 years. If this statement be true, then there must be a deplorably large amount of organic heart trouble in children. Up to the time of seeing this statement, in examining children, I took it for granted that the murmurs which I have heard distinctly, generally at the second right interspace and the second left interspace, and transmitted upward, were hemic murmurs. They occurred in children coming to two large clinics, one at Rush Medical College, and the other at the Policlinic. The children seemed to be fairly well nourished and looked a little anemic, although I can not absolutely say that they were anemic, as I have not careful records of the blood in those cases; neither had I up to that time careful records of the other conditions of the heart, such as the area of cardiac dulness, the character of the sounds, etc., all of which ought to be considered. Since then I have been following the question up more carefully, and although I am not as yet prepared to make any positive statement, I know that these murmurs are to be heard, and that they generally occur in chlorotic children with a low percentage of hemoglobin, and a normal number of red corpuscles. With no increase in the area of cardiac dulness, with no displacement of the apex, the urine shows no organic trouble, but in a number of cases there is a diminished excretion of solid materials. We should take into consideration the position of the apex at the different ages of the children. I speak of this because I hope some other gentleman will relate his experience and because I had regarded these murmurs as of hemic origin until I saw the statement I have mentioned. That statement, however, is contradicted by Holt, who says that hemic murmurs are not at all uncommon in children under 3 years of age.

Apropos of Dr. Billings' statement of the occurrence of endocarditis in the course of any of the infectious diseases, I would like to mention a case which I had last January, of a child 3 years of age, presenting a rheumatic family history. The child was attacked with croupous pneumonia, and on the fourth day thereafter developed a very curious temperature chart, one which, at the end of two days, led me to suspect the existence of endocarditis, although nothing could be heard on the part of the heart suggestive of that condition, except a soft systolic murmur heard at the second right interspace. Four days after pneumonia developed, a harsh, systolic murmur was heard at the fourth interspace, just inside the nipple line and a little to the left of the apex beat, the murmur being transmitted outward into the axilla. The child recovered from the pneumonia, which ran the average course, and the murmur disappeared in the course of a few weeks. I thought at the time, although it was impossible to demonstrate it, that with the croupous pneumonia there was an invasion of the endocardium by the pneumococcus, and a resulting endocarditis, occurring in a child predisposed to endocarditis by a distinctly rheumatic inheritance. The boy has entirely recovered from the endocarditis, but it is going to be extremely interesting to see whether, in future attacks of tonsillitis, or when the child is exposed to cold, there will be a recurrence of the endocarditis.

Dr. ARTHUR R. EDWARDS—Something like a year ago I had occasion to look up the literature of the subject upon which Dr. Butler has largely based his observations. The principal part of what I have to say will relate to investigations rather than to personal experience. I have not seen the number of heart cases presenting the special points that Dr. Butler and others have. One of the first points in the discussion to attract my attention was a remark made by Dr. Billings regarding pericarditis and endocarditis as having a bearing on the contour of the heart in youth and in infancy. Those remarks apply with particular force here, and yet the standpoint of Dr. Butler should be emphasized, namely, that those changes which are so close to the pathologic may be observed in healthy children as well. The location of the apex-beat varies according to different authorities, and this is why there has been so much confusion on the subject. For instance, many authors, and among them those mentioned by Dr. Butler, do not state explicitly whether they are dealing with a normal or diseased heart. Sahli states that his observations were made on the normal heart; others state that their observations were based on pathologic cases. One of the largest statistics is that of Wassilewsky, who examined something like twelve hundred pathologic cases. I think it can be established beyond all doubt, that the heart varies at all stages of infancy or of childhood more than it does in the adult.

In looking up the subject in relation to the location of the heart and its horizontal position, it would seem that Dr. Butler's observations differ a little from many of those that have been published. For example, my own observations have shown the apex beat to occur with equal frequency in the fourth interspace, and I believe Dr. Butler found it in the fifth interspace with the children in the erect posture. Whether this be true or not, and whether the position of the heart be due to elevation of the diaphragm, it seems established that the heart is rather higher in children than it is in adults. Then, too, there is another point to be considered, although it is not proven, viz., that the heart is in closer apposition to the chest wall in childhood than it is in the adult. The decrease in size of the heart is probably due to a lengthening out of the transverse diameter of the chest. Again, with reference to the position of the apex-beat. There are a great many statistics on this point, and they are very confusing. Various pathologic conditions are related in various stages, and still find statements made by many men who have observed the patients carefully, and who say they have found the apex-beat under the nipple line or even as far as two or three centimeters external to it. This is one point that particularly attracted my attention, not regarding differences in age, but in patients of the same age it was noticed that there was this discrepancy of observation, and this, too, in cases where normal children were examined. This point was especially brought out by Rosenstein, and I believe, emphasized by still earlier observers, that the apex-beat does not indicate, as it does in the adult, the exact left border of the heart. Some observers claim that the apex-beat does not represent the extreme cardiac border; that the apex is constituted more of the right than of the left side of the heart. The heart is twisted or assumes such a position that to a large extent the left ventricle is hidden beneath the lung, hence the relative dulness of the heart will have to be considered. All the foreign authors whom I have consulted, among them German investigators, have mentioned the fact that the right heart is to the right of the right border of the sternum.

Finally, I think the point should be brought out that has been touched upon already, viz., the method of percussion. Deep percussion of such a small chest, and percussing with anything like the strength we employ in outlining the normal adult, would bring out resonance of other portions of the lung, or would bring out the deeper portions of the heart, so that great care would have to be exercised in this particular in percussing children, so that it may have a definite place in outlining the heart in infancy and in adults.

Dr. JOSEPH M. PATTON—My experience in the examination of children has been mostly limited to those from 8 to 12 years of age. The usual statements made on the subject of the size of childrens' hearts by various observers vary notoriously, yet my own experience does not differ materially from the statement that the relative dulness of the child's heart is usually greater than that of an adult; also that the apex is much farther to the left and higher than in the adult. It is usually in the neighborhood of the mamillary line and under the rib, or in the fourth interspace. I have always accepted that as being a normal condition and due, as Dr. Billings has remarked, more to the oblique position of the heart in the child. It is remarkable what a great variety of results we will get from percussion, by different observers, on subjects in an identic condition. These results vary so much that inferences drawn from the percussion area of dulness have been regarded by many men as in some degree fallacious. Some authors have even stated that percussion is not to be regarded as of any great value in determining the size of the heart, and is not to be compared with the position of the apex-beat. Taking

these statements by different men into consideration we have to admit that there is room for great variation in results. I believe that we can make out the area of a child's heart with much greater facility than we can that of an adult.

One particular point of interest to me in the paper was the right border of dulness as given in these statistics. It emphasizes the fact that in children the right border of dulness extends farther to the right than in the adult. It is particularly important, because it may be taken to indicate the presence of Rotch's sign of pericardial effusion, for instance. I recently saw a boy, 9 years of age, who had a very rapid, irritable heart action, with elevated temperature, dyspnea and restlessness, in which a diagnosis of pericarditis was made, and in whom the right border of dulness was one-half inch to the right of the right border of the sternum in the fifth intercostal space. This would indicate, according to Rotch, pericardial effusion. For other reasons, I did not think there was any pericardial effusion. The case came to autopsy, and there was well marked pericarditis with plastic exudate, a typic so-called hairy heart in which there had never been any effusion into the pericardium. This illustrates what Dr. Billings has said about the possibility of pathologic states modifying the percussion area, and these conditions ought to be excluded, as far as possible, in any such investigations as those to which this paper applies. It illustrates, too, that we ought to be very careful in accepting the extension to the right of the dulness as being indicative of effusion.

Dr. BUTLER (closing the discussion).—With reference to the possibility of an old adhesive pericarditis accounting for the increased cardiac area in children, I will refer briefly to some statistics given by Dickinson. Of twenty-eight cases that had died from other causes than that of pericarditis, but in which adhesive pericarditis was found, in very few was the heart enlarged as the direct result. The majority of the cases were over 15 years of age. In twelve a history of pericarditis was obtained as having occurred after the fourteenth year. Only five were children. Four of these also had valvular lesions. Dickinson concluded that pericarditis in children was almost always rheumatic accompanied by endocarditis. Da Costa, on the other hand, states that rheumatic pericarditis is less frequent in childhood than at a later age. The cases selected for examination were as near normal as it was possible for us to determine. In each case the heart was tested as to its mobility, with a view to eliminate concretio pericardii as a cause for enlarged cardiac area. It is not easy to make a diagnosis of healed-out adhesive pericarditis, and according to Kolisko the physical conditions are not present to produce physical signs that might lead to its diagnosis, and that the same first becomes accessible to diagnosis where the process has extended to the extrapericardial tissue, resulting in adhesions that fixed the heart to the chest wall, rendering the heart in great part, or entirely, immovable with change of position of the patient, and also the systolic retraction of interspaces or of chest wall.

With reference to the term, "accidental murmurs," Sahli includes all cardiac murmurs, not valvular or functional insufficiency murmurs, under the general term of "accidental murmurs."

Concerning the early diagnosis of endocarditis and pericarditis, mentioned by Dr. Billings, which might account for some of the enlarged cardiac areas observed, we will concede to Dr. Billings the anticipation of pericardial or endocardial changes from clinical symptoms; but, on the other hand, remembering the not infrequent deceptions occasioned by neuroses, we do not feel justified in making such diagnoses unless supported by positive physical signs.

With reference to the apex not indicating the limit of the heart to the left, Neusser accepts the apex as the left limit. I do not know whether he makes any distinction between the child and adult heart in this matter, but I might mention the important physical sign in a pericarditis with effusion, namely, the extension of the left limit of dulness beyond the apex beat. As to the apex of a child being more frequently in the fourth than fifth interspace, it would seem that Gierke and Sahli's investigations would not confirm this.

(To be continued.)

Chicago Medical Society.

Regular Meeting, Jan. 4, 1899.

Dr. ARTHUR D. BEVAN, the president of the Society occupied the chair.

Dr. FENTON B. TURCK read a paper on

MOTOR INSUFFICIENCY OF THE STOMACH

and the subject was formally discussed from the standpoints of pathology, bacteriology and chemistry, by Drs. EVANS, GEHRMANN and WESENER, respectively.

Dr. TURCK said in part: The motor power of the stomach is by far its most important function, not only because the food can not be absorbed until it reaches the intestines, but also because the pepsin digestion is enormously retarded if the churning process of the stomach should cease. This was conclusively shown by means of artificial pepsin digestion experiments in rotating rubber bags. The contents in the thicker and less flexible bags would be digested much more rapidly than the contents in the thinner and more flexible bags. The latter, in revolving, would disturb the contents less.

In addition to the lack of nutrition and final starvation produced by motor insufficiency, this also produces serious vasomotor disturbances of the splanchnic area: 1. Because uninterrupted dilatation and distension of the stomachs of dogs produced collapse, and as the stagnation of the food contents gives rise to gases it is quite possible that these together with the stomach contents will produce similar results. 2. The food remnants may themselves act as irritants, especially such remnants as adhere to the stomach walls. 3. In stagnant food remnants there are unquestionably formed toxic substances through the action of the numerous bacteria that infest the stomach, and the author's experiments have indeed shown that such stagnant stomach contents are far more toxic than the normal ones. The toxins so formed make probably a powerful factor in the production of the vasomotor disturbances that accompany motor insufficiency.

In connection with the etiology of simple motor insufficiency, the author emphasizes the fact that all the causes that produce it do so by overtaxing the stomach muscles without allowing them sufficient periods of rest. In accordance with the laws that govern all muscle contraction, this must sooner or later result in fatigue. Fatigue inevitably results in retention, and long-continued retention results as inevitably in permanent weakening of the muscles and in dilatation. Such weakening of the stomach muscles was produced by the author on dogs by introducing permanent loads in the form of silk bags filled with shot. From an etiologic point of view, motoric insufficiency may be divided into two classes: 1, Such as are due to some mechanic obstruction, and where the motor insufficiency is secondary to the obstruction. These, whether malignant or benign, demand the earliest possible surgical interference, and on the part of the physician call for an early diagnosis. 2. Those in which the gastric myasthenia and dilatation are the primary conditions.

Motor insufficiency is often produced after other general and acute diseases, because of the weakening of the stomach muscles and the tendency to disregard the proper dietetics during the convalescent stages. The author points out that the early gastric symptoms in cases of tuberculosis are not due to disturbances of secretion, because hyper- and hypo acidity and other anomalies of secretion are not constant factors, as is the lack of motor power in the stomach, and when this motor power is restored, the nutrition of the patient is increased and the general condition shows marked improvement. The author therefore emphasizes the fact that in the treatment of tubercular patients due regard must be paid to the improvement of the gastric motility. The author has also had occasion to investigate the gastric condition in various forms of diabetes, and has found that nearly all such patients have this lack of motor power. This is true even in cases where there are seemingly no gastric symptoms. The author would have special attention given to this in the treatment of diabetic patients.

Diagnosis.—The author calls attention to a few aids to the diagnosis of motor insufficiency of the stomach. Leube's method, as most commonly used, is the examination of the stomach contents in the morning, after an evening meal, and if food is found, the conclusion is reached that motor insufficiency exists. Even where the pylorus is patulous and the bulk of the food passes into the intestines, remnants of food may remain adherent to the stomach walls. This condition is not revealed even by lavage, but the food detritus is readily removed by the use of the gyromele, and thus a condition of motor insufficiency, otherwise unobserved, may be detected.

It is often necessary to determine the location, size and capacity of the stomach, as well as the character of the stomach walls, as displacement and prolapsus, dilatation or distension is so frequently associated with motor insufficiency. The distension of the stomach with air, Ruenberg's method, or the introduction of water, Diho's method, followed by percussion, are the methods most commonly used. To facilitate the method and overcome the many objections that often defeat the most skilled diagnostician, the author has devised a method by the use of a thin rubber bag firmly attached to a double tube. One end of the double tube reaches to the bottom of the bag, the other only to the opening. The bag fits closely around the tube and does not materially increase the size, but

when fully distended has the capacity of 1500 to 2000 cm. The bag and double stomach tube are introduced into the stomach, and water in fractional quantities is forced into the bag within the stomach until a liter of water is introduced. The area of dulness that is found each time that one-quarter liter is added is marked with a pencil upon the abdominal wall. If air is now forced into the bag, the upper portion of the stomach, the fundus and lesser curvature are similarly determined by percussing the tympanitic area. If the small tube which leads to the upper portion of the bag containing the air is now connected with a manometer, any movements of the stomach will be indicated by the rise and fall in the manometer. The water may be siphoned off and diagnosis confirmed by retracing the steps. Thus, the location, size, capacity, and motor power of the stomach may be very accurately determined.

A more direct and rapid method of determining the location, size and condition of the stomach is by the use of the gyromele, which traverses the entire circumference of the stomach, the lateral as well as the vertical extent, including the greater and lesser curvature. By palpating the revolving cable upon the abdominal wall, the gastric outline can be accurately determined. By using cables of different degrees of flexibility, the degree of distensibility of the stomach can be accurately determined. From its distensibility the motor power can be quite accurately estimated in cases where there is no pyloric obstruction, as has been repeatedly found by experiments. The pyloric obstruction is discovered in the process of sounding the stomach, pylorus and duodenum.

Dr. HOMER M. THOMAS read a paper on the

MECHANISM OF NEBULIZATION IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

The general interest which is taken in the subject of nebulization at the present time, particularly in its application to the treatment of pulmonary troubles, leads him to call attention to a few of the mechanic appliances that are used in the production of nebulæ. A difficulty, which has appeared to lie in the direction of this treatment, has been in the imperfect construction, and hence inefficient action, of various nebulizing instruments. Appreciating this mechanic difficulty, he has devised a nebulizer which for his own use has been eminently satisfactory. This nebulizer he described in detail, as well as the method of its use. He said that the latest addition to the facilities for treating disease in Cook County has been the erection of a consumptive hospital at Dunning. This institution is devoted exclusively to the care and treatment of tubercular patients. In the treatment of tuberculous cases there, one of the measures used is nebulization of the essential oils, such as cinnamon, oil of wintergreen, oil of pine needles, Merck's oil of cloves, oil of eucalyptol, beechwood creosote, thymol, and any others that may be considered efficient. He thinks the compressed air mechanism in the new hospital is probably the most complete of any in this part of the country. Extreme care has been used in providing absolutely pure air for the application of these treatments. The capacity of the hospital, when full, is about 380 patients, and with the present piping arrangement he thinks it will be possible to nebulize at the bedside probably fifty or sixty patients' special nebulæ, as may seem needed for each case. In addition, there are rooms sufficiently large to accommodate ten or fifteen patients at a time, in which the air is supersaturated with the antiseptic nebulæ. In these rooms patients gather for from fifteen to thirty or forty minutes, and breathe this highly charged antiseptic air. By this means it is hoped, with the very efficient mechanic appliances in operation at Dunning, to greatly assist in the amelioration, if not extinction, of pulmonary tuberculosis.

Dr. GEORGE W. JOHNSON of Dunning, in the discussion of Dr. Thomas' paper, stated that from June 1, 1897, to Oct, 1, 1897, he persistently treated 260 tuberculous patients by the inhalation of vaporized oils, such as beechwood creosote, oil of cloves, and eucalyptol, using albolene as a vehicle. These oils were vaporized by compressed air (hydrostatic) of from fifteen to twenty-five pounds pressure per square inch. The vapors were respired from a mask fitting tightly over the face and for a period of fifteen minutes each morning and evening. While inhaling the vapor, the patients were required to breathe as deeply as possible and about the normal number of respirations per minute. From these 260 patients a careful clinical record of forty cases was kept on such points as quantity and character of sputa, microscopic examination, temperature, pulse, respiration, cough, night sweats, physical examination, and body weight. A study of such a clinical record for four months showed fairly good results. In each particular case the weekly examination of the sputa showed a marked diminution in the number of tubercle bacilli. The sputa was diminished in quantity, the cough greatly alleviated, the body weight increased, with marked relief from night sweats and dyspnea. The patients took kindly to the treatment, for it was applicable to every case. From Oct. 1, 1897, to Oct. 1, 1898, he had admitted 333 patients to his tubercular ward. Of this number, 236 were given the vapor treatment, persistently. Of the 236 patients receiving treatment, 118 were so much improved that they left the institution to seek employment. While the inhalation of antiseptic vapor is not a specific for tuberculosis of the lung, yet, as Dr. Adolph Schmid states, it plays the rôle of a supporting means to other methods of treatment. To the unprejudiced mind there can no longer be doubt of the penetrability of properly compounded and vaporized medicaments. Their value in the treatment of pulmonary affections is solely determined by the amount respired. Clinical experience has proved their value when but moderately used. If such an apparatus as Dr. Thomas has suggested is used, and the patient made to live, while in the house, in an atmosphere that is sterile and laden with proper medicaments, great benefit must result. Dr. Johnson is of the opinion that inhalation therapy has a bright future.

Dr. ARNOLD C. KLEBS said that he had always held that inhalation of vaporized medicaments in any form is very valuable in the treatment of diseases of the respiratory tract, but only in a limited way. It is doubtful whether such extensive and complicated apparatus is really valuable in the treatment of poor consumptives, and he is inclined to think other means can be brought forward which will do the work just as efficiently and be less expensive. He does not believe that vapors of such strength as will exert an antiseptic influence on the bronchioles or alveoli can penetrate the lung. He had made some experiments upon this subject, and has found that in order to vaporize 10 c.c. of any oily substance, under high pressure, it takes one hour with the ordinary apparatus, and there is very little active substance in this quantity, and nearly 50 c.c. is inhaled again. He has not used the apparatus of Dr. Thomas, but the principle is the same in all of them.

Denver and Arapahoe Medical Society.

Regular Meeting Dec. 27, 1898.

Dr. T. MITCHELL BURNS contributed an interesting paper on the

TREATMENT OF PUERPERAL PHLEGMOSIA ALBA DOLENS.

He said in part: As soon as the condition is diagnosed, the uterus or any infected area in the birth canal should be thoroughly curetted. Three times a day, or oftener if necessary, the limb should be bathed in hot water in the following manner: Bring the patient's hips to the edge of the bed, rest the heel on a chair, place a bowl of hot water beneath the leg, and cover the limb with one wrapping of woolen cloth, then dip a woolen rag into the hot water and wring it out on the anterior surface of the leg. This should be kept up for half an hour at least, increasing the temperature of the water as fast as the patient can stand it. When through with the bathing, the limb should be wiped dry, turpentin and lard or camphorated oil gently applied, then cotton batting and a bias cut flannel bandage put on and the limb placed to rest on a pillow. The bowels should be kept moving two or three times a day by the use of saline cathartics. Tonics and a good liquid diet should not be forgotten. He also recommended rubbing with the dry hand, toward the patient's heart. He thinks that the use of hot fomentations relieves the congestion and mitigates the pain. He has found that some patients resist the use of hot water, and so used cold water instead with very good results. Dr. Burns recited the histories of 10 cases, in which milk leg commenced on the first, twenty-fifth, tenth, first, twelfth, first, fourth, first, eighth and fourteenth days and terminated on the fifty fourth, thirtieth, forty-second, one hundred and eightieth, thirty-fifth, fortieth, seventieth, fifty-fifth, and thirtieth days respectively. The tenth case was a patient who six months after her confinement was still bandaging her leg because of swelling. He advised curettement. The result was excellent. Half the illustrative cases were seen in consultation.

Dr. E. R. AXTELL, in discussing the paper, said that the treatment advocated does not agree with his knowledge of pathology. He took exception to curettement in milk leg, believing it dangerous to bend the leg for the operative procedures. For the same reason he thinks that the hot fomentation should not be used, as the patient must be moved to the edge of the bed. He keeps his patient absolutely at rest. He agree that counter-irritation should be applied.

Dr. T. E. TAYLOR read a paper on the

SERUM TREATMENT OF PUERPERAL SEPTICEMIA, WITH REPORT OF CASES.

Prefacing the report of cases he said: The undisputed effi-

cacy of the antitoxin treatment in diphtheria prepared the profession to give a cordial reception to other similar serums, and to hope that a new principle of treatment has been discovered, capable of being extended to all germ diseases. Since reading the first reports of the use of streptococcus serum in septicemia he had wished for an opportunity to test it, and such occurred in his practice during 1897.

Case 1.—A primapara, 20 years old, was confined October 25, in a rather quick labor, lasting only six hours, with a moderate tear in the cervix. She had a normal puerperium, save that the lochia persisted abnormally. At the end of two weeks she felt so well that she moved to a house at least one mile distant, doing much of the work herself. Thirty-two days after her confinement the doctor called to see her and found that she had a bloody and slightly offensive discharge from the uterus, moderate tenderness around the uterus, pulse 100 and temperature 102. Two days previously she had had a chill, with nausea and pain in her pelvis, which she supposed to be due to piles. Turpentin stupes were ordered, and the uterus irrigated with 1 to 5000 solution of bichlorid. Small doses of calomel were administered internally. On the following day the pulse was 90, and the temperature 100.5, with much pain in the right side toward the diaphragm. The discharge was less offensive. The uterus was again irrigated and the other treatment continued. On the third day, the discharge being offensive, irrigation was discontinued, a saline cathartic administered and a $\frac{1}{30}$ of strychnin given every three hours. On the fourth day pain in side was gone; tenderness, however, was so great that she could not move; no tympanitis; pulse was 100, temperature 102. On the fifth day she complained of chilliness, bowels locked, urine retained, very great abdominal tenderness; pulse was 118 with temperature 101. He injected 10 c.c. antistreptococcus serum (P. D. & Co.) on the following day; in the morning the pulse was 106 and temperature 100.5; she had been sweating; tenderness less. In the afternoon the pulse was 100, temperature 100, and she felt much better and had eaten more. On the third day after the injection the pulse was 115 and temperature 102. He injected 10 c.c. of the serum. In the evening the pulse was 100 and temperature 99.5, patient feeling better. From this time the patient made a steady recovery. Dr. Taylor, in commenting upon the case, said: "Her desperate condition had improved so noticeably after each injection that I could not but credit her improvement to the new agent, and was more ready to use it again."

Case 2.—The wife of a physician in a neighboring town, 22 years old, and mother of two children, reported that three days before she was seen, while pumping a pail of water, her membranes ruptured. The husband, upon making a vaginal examination found but slight dilatation. He gave her a bichlorid douche and put her to bed. Thirty hours later pain set in and a three-months' fetus with membranes passed entire. Next pay she was bright, but toward nightfall had a chill. She did not feel cold, but could not help shivering. It was thought to be nervousness, and bromid and chloral was administered. At 10 o'clock the following day she was found still sleeping, pulse 78; at 11 o'clock, pulse 120, temperature 103.5. When Dr. Taylor reached her at 3 P.M. the pulse and temperature were found the same as at 11 o'clock. He at once curetted the uterus with a sharp curette, and removed a moderate amount of shreddy tissue. An hour after curettement the temperature fell to 101.5 and the pulse to 110. Three hours after curettement she had a hard chill, the pulse rose to 150 and the temperature to 105.5. It was decided to inject 10 c.c. of serum (Mulford's). Two hours later the temperature fell to 102, pulse to 110, and four hours later both were normal. On the following day there was no rise in temperature, and she made an uninterrupted recovery.

In concluding the paper, Dr. Taylor said: "The same general rules which obtain in diphtheria antitoxin apply here. Its early use offers the best prospect of benefit, before the general disorganization of tissue renders all means of cure alike hopeless."

PRACTICAL NOTES.

Prophylaxis of Puerperal Infection.—Döderlein urgently recommends that the accoucheur wear rubber gloves, proclaiming their efficacy in preventing infection, from his experience with two hundred cases.—*Berlin klin. Woch.*, 1898, 50.

Abdominal Incisions.—Wolkowitsch urges the necessity of incising between and parallel to the muscular fibers, to insure a solid cicatrix.—*Munich Med. Woch.*, Dec. 20, 1898.

Foreign Bodies in the Nose.—Felizet reports sixty cases of foreign bodies in the nasal passages, extracted by syringing thoroughly the free passage, which expels the obstruction by the mechanic pressure of the water.—*Semaine Méd.*, Nov. 23, 1898.

Tuberculous Peritonitis.—Lejars calls attention to a form of tubercular peritonitis, commencing abruptly and stormily, completely simulating ileus, but responding very favorably to prompt intervention.—*Echo Méd.*, Dec. 18, 1898.

Sero-Diagnosis of Tuberculosis.—Mongour and Buard obtained positive sero-reaction in four cases of tuberculous pleurisy and nine of tuberculosis. They also discovered latent phthisis by this means in twenty other patients.—*Echo Méd.*, Dec. 18, 1898.

Anti-Gout Remedies in Glaucoma.—If iridectomy is refused, much benefit can be attained in severe cases of glaucoma by administering piperazin and ordering an anti-gout diet, as a gouty tendency is frequently the basis for the eye affection.—*Ophthmol. Klinik*, 1898, 21.

Eosin in Ophthalmology.—Dr. Sorigner calls attention to the advantages to be derived in cases of ulcerations, foreign bodies, etc., in the eye, from a drop or so of a 2 per cent. solution of eosin, which stains the altered tissues, etc.—*Anales de Oftalmol.*, December, 1898.

Enema for Diarrhea.—Four per cent. solution of boric acid 400 gm., tannic acid 3 gm., tincture of opium 15 drops. Mix a quarter of this solution with boiled water to make an enema at 36 degrees C. One enema a day after purging with castor-oil.—Lieberson: *Jour. de Méd. de Paris*, Dec. 18, 1898.

To Arrest the Pain of a Burn.—The most painful burns are assuaged in a moment by the application of the following, according to the *Medical Record* of Oct. 1, 1898: Cocain hydrochlorate grs. v; camphophenique, ℥ss; olive oil ℥ss. Rub up the cocain and the camphophenique and add the olive oil.

Eruption from Use of Sulfonal.—Leick observed a generalized bullous eruption follow the use of two grams of sulfonal in an alcoholic subject, and he suggests caution in prescribing this substance where there are alcoholic antecedents.—*Semaine Méd.*, Dec. 14, 1898.

Malarial Respiratory Affections.—A physician writes from Batum describing the peculiar coughs, bronchitis and dyspnea observed there, which are evidently of a malarial nature, as they are cured with quinin, while rebellious to all the ordinary narcotics and antispasmodics.—*Bull. de l' Acad. de Méd.*, Nov. 22, 1898.

Hydatid Cysts of the Kidney.—Eight cases operated by the Recamier-Simon method resulted in three deaths and five recoveries; five died in six operated by nephrectomy, while all the fourteen cases treated by nephrotomy recovered (eight lumbar and six transperitoneal).—G. Houzel in *Revue de Chir.*, 1898, 8 and 9.

Radiographic Stereoscopy.—Chabaud notes that the inversion of the plates in the stereoscopic apparatus enables a foreign body to be located in the tissues with extreme accuracy. A hand examined with the apparatus will be seen with the dorsal or plantar side uppermost as the plates are inverted or not. This phenomenon, due to the fact that nothing is absolutely opaque to the X-rays, is of great importance in radiographic stereoscopy.

Ethyl Chlorid Anesthesia.—This anesthesia has been used in 170 operations, at Haeker's clinic. The Breuer inhaling apparatus is preferred; dose 8 to 10 grams. The anesthesia commences very rapidly; a period of agitation was only observed in 13 per cent. The anesthesia lasts five to ten minutes, and its after-effects are insignificant. Vomiting occurred eighteen times.—*Munich Med. Woch.*, Dec. 20, 1898.

Nitrate of Silver for Thrush.—It has been demonstrated that infants' mouths tolerate perfectly a 3 to 5 per cent. solution of nitrate of silver, which rapidly destroys thrush. A rag slightly moistened with the solution is given the child to suck once in twelve hours. Two or three applications will cleanse the mucosa completely.—*Semaine Méd.*, Nov. 23, 1898.

Colpitis Gangrenosa or Necrotica.—O. Busse reports a case in which liquor ferri sesquichlorid was applied to the vagina to arrest sheet hemorrhage, resulting in the expulsion of the entire necrotic vaginal sheath. A similar process has been observed after certain cases of typhus and pneumonia, which has been called "perivaginitis phlegmonosa dissecans," but this term is incorrect, as the phlegmon is the secondary, the necrosis the primary affection of the vagina.—*Munich Med. Woch.*, Dec. 20, 1898.

Thyroid Treatment for Ear Troubles.—G. Heerman advises thyroid treatment of certain cases of chronic catarrh of the tympanum, as he considers it probable that a number of chronic ear troubles proceed from arteriosclerotic changes, and Vulpius has established that thyroidin possesses the property of overcoming certain resistances in the circulation. He describes a number of cases illustrating the benefits to be derived from this connection between ear troubles and general pathology, in the *Deutsche Med. Woch.*, 1898, No. 49.

Pneumatic Prothetic Apparatus.—A young woman whose leg had been amputated found it impossible to walk in the boot provided on account of atrophy of the stump. A mechanic friend of hers contrived another apparatus, the same as the boot on the outside, but containing a bicycle pneumatic tire, with a valve on the outside to pump it full of air. This support holds the stump to perfection, and Ussing, who describes it, suggests that the same principle might be applied to a number of prothetic appliances.—*Revista de Anat.*, Mexico, Nov. 1, 1898.

Therapeutic Isolation of Nerves from their Sheath.—Anzilotti observed a severe case of ischialgia remarkably improved after isolation of the nerve from its sheath, which alters the anatomic and physiologic conditions, and may prove therapeutically valuable in the entire field of neuralgia. The isolation of a sensory nerve leads sooner or later to paralysis of sensation, and the restoration of sensibility follows after a longer or shorter interval, depending upon the anatomic and functional conditions.—*Gaz. degli Osp.*, Dec. 18, 1898.

Cystitis and Pyelitis.—G. Rosenfeld summarizes his experience as follows: The reaction is not alkaline in uncomplicated pyelitis. The limit of albumin contained is .1 per cent., maximum, .15 per cent. in the most advanced cystitis. Numerous indentations in the pus cells indicate pyelitis. If the red corpuscles show much alteration in shape or chemic constitution, pyelitis is indicated, if the hemorrhage is only microscopic and there is no tumor in the bladder. Flakes of the epithelial cells of the upper urinary passages confirm the diagnosis of pyelitis.—*Berlin klin. Woch.*, 1898, 30.

Importance of Waves in a Pyopneumothorax.—R. Kienbock calls attention to the waves observed in a left pyopneumothorax with the Roentgen fluorescent screen, caused by the contraction of the heart in the fluid, whatever the position of the subject and the change in its horizontal surface. The waves are also visible in a right pyopneumothorax, but are produced by a different mechanism. The diaphragm is paralyzed under the effusion, but the sound half is working normally and forces the intestines down and over the paralyzed side at each inspiration. The intestines raise the passive diaphragm and thus produce the waves.—*Vienna klin. Woch.*, Dec. 22, 1898.

Treatment of Corneal Opacity.—Corneal opacity is first a round-celled infiltration, with later spindle-celled and fibrous transformation. The more advanced the fibrous transformation and the fibrous tissue incorporated as a fixed constituent of the substance of the cornea, the less favorable the prospects of cure, consequently the necessity of early treatment. The healing process can only be a reabsorption and reorganization, and all medical treatment is futile. The only means of hastening and promoting the process is massage of the bulbus and of the region surrounding the eye. Vehmeyer massages through the closed lid, for fifteen minutes, two or three times a day, until there is a sensation of "burning heat," with a bandage over the eye afterward to enhance the effect of the massage.—*Munich Med. Woch.*, Dec. 20, 1898.

Pleural Effusions in Chronic Heart Affections.—Besson describes the baneful effects that follow the compression of the heart by a pleural effusion, especially where there is already chronic trouble sufficiently compensated under normal conditions, but frequently assuming alarming proportions when the new task is laid on the already overburdened organ. He urges thoracocentesis early and often in such cases, particularly with hydrothorax, and vigilant supervision over the renewal of the effusion.—*Jour. des Sci. Méd. de Lille*, Sept. 10, Oct. 1 and 8, 1898.

Therapeutic Value of Lumbar Puncture.—Lenhantz describes the case of a boy 4 years of age, with acute suppurating cerebrospinal meningitis. Lumbar puncture released 30 c.c. of thin pus under great pressure, in which the Jäger-Weichselbaum diplococcus was found. The puncture was repeated twice, and each time the effect on the general condition was remarkable, the boy improving from the first and promptly recovering. He also considers lumbar puncture directly beneficial in severe chlorosis and serous meningitis.—*Munich Med. Woch.*, Dec. 20, 1898.

Yolk of Egg in Infantile Anemia.—In anemic and athreptic infants subcutaneous injections of fresh yolk of egg mixed with one-third its weight of physiologic salt solution, filtered through absorbent gauze and injected into the buttock, caused an increase in weight, number of red corpuscles and amount of hemoglobin, much more rapid than with injections of lecithin. Commencing with 1 c.c., the dose is increased to a maximum of 10 c.c., averaging twenty injections with light local massage after each.—Professor Forlanini of Turin, *Semaine Méd.*, Nov. 2, 1898.

Gelatin as a Local Hemostatic.—Siredey warmly recommends local applications of gelatin to arrest hemorrhage, "effective and absolutely harmless," confirming the recommendations of Carnot and others, mentioned in the JOURNAL. It has never failed him once; the benefits were especially noticeable in nine severe metrorrhagias of various etiology. After cleansing the vagina with boiled water, he paints the inside of the uterus with a cotton tampon dipped in gelatin and leaves a strip of gauze dipped in gelatinized serum in the cavity. Formula for the serum: sodium chlorid 7 gm., gelatin 50 gm. to the liter of water, sterilizing it in the autoclave, but not allowing the heat to pass 105 degrees C. The serum can be kept some time by the addition of a thousandth part of sublimate or a hundredth part phenic acid. No tight packing is required.—*Revue Méd.*, Dec. 21, 1898.

Subphrenic Abscesses.—The abscess is usually secondary to some other suppurating process elsewhere, and develops under the diaphragm with the formation of gas. Maydl noted appendicitis antecedents in twenty-five out of 179 observations collected in literature. Sonnenburg found only five cases out of 230 operations for perityphlitis. Expectant treatment results in the perforation of the diaphragm, as occurred in twenty two out of Sachs' forty-one observations. Only very rarely does such a perforation heal spontaneously. Prompt evacuation and drainage is imperative. Cahen reports a case that recovered after a second operation, disclosing a second pus pocket, only to be reached by resection of the twelfth rib.

Prurigo in Children.—H. Wolf reports that the two best methods of treatment are injections of a Pravaz syringe of a 1 per cent. carbolic acid alternating with injections of a 1 per 1000 solution of pilocarpin, or Monti's method, which possesses certain advantages: The skin is cleansed and thickly covered with zinc-salicylic acid powder. Mosetig batiste is then wound around it and fastened with a tight bandage. This dressing is changed every forty-eight hours, and the macerated skin cleansed. The prurigo is rapidly improved and heals in five to fourteen days. It is still too soon to decide in regard to relapses.—*Munich Med. Woch.*, Dec. 20, 1898.

Powders and Salves the Color of the Skin.—A combination of white, red and yellow or brown is necessary in order to obtain this desirable effect. Unna uses zinc oxid, bismuth oxichlorid or cerussa for the white; white ochre, ichthyol or umber for the yellow or brown and vermillion or red bole for the red, but Rausch finds eosin the best red for the purpose. Unna uses frequently the following application for the uncovered parts of the body: Zinc oxid 2 gm., magnesium carbonate 3 gm., white bole 3 gm., red bole 2 gm., rice starch 10 gm. Sift through old linen. This is especially valuable in seborrheic eczema, acne rosacea and oily hyperyidrosis.—*Journ. de Méd. de Paris.*

Bazy's Treatment of Chronic Cystitis.—If a fluid of less specific gravity than the urine is introduced into the bladder, it will float on top and not be expelled with the urine until the latter has all been ejected, when the patient can retain it if desired. Bazy utilizes this fact for local application of iodoform, by injecting twenty to thirty grams of a twentieth solution of iodoform and oil of vaselin. Patients can thus retain the iodoform two to five days, restraining it as soon as the oil appears in urinating. He found iodoform still in the urinary passages up into the pelvis, at a necropsy fifteen days after the injection. As a palliative this method affords excellent results.—*Presse Méd.*, Nov. 26, 1898.

Doleris' Method of Treating Retroversion.—Whenever there are lesions of the annexes requiring laporotomy, he picks up the two round ligaments with a pair of forceps or a string, about the center, that is, three or four centimeters from the uterine cornua, and pulls the loops thus formed into the inferior angle of the parietal wound, which is close to the superior edge of the symphysis, to get the benefit of the fibrous pillars there for a solid support. The loops are then sutured with catgut to the layers of the abdominal wall in this angle of the wound, and the wound is closed as usual. Seven cases thus operated during the last year proved very satisfactory (nine to five months). The weakened portion of the ligament is supplanted by the stronger lower portion, and if pregnancy supervenes, the ligaments hypertrophy and stretch as in normal conditions. He tabulates his cases with details in the *Jour. de Méd. de Paris*, Dec. 18, 1898.

Tumor Cerebelli: Position Test.—A couple of cases of pregnant women, observed at Professor Neusser's clinic, are described in detail in the *Vienna klin. Woch.* of Dec. 22, 1898, in which the classic symptoms indicated some cerebellar trouble, and the absence of knee-jerk militated against hydrocephalus. The peculiarity of each case was that lying on a certain side, even long after the pregnancy had terminated, produced buzzing in the ears, vertigo and vomiting, relieved by turning over. In both cases the diagnosis was tumor cerebelli with subsequent chronic hydrocephalus, but the necropsy disclosed in each an angiosarcoma of the half of the cerebellum on the side opposite the "vomiting side." The "position test" therefore indicates, with some probability, compression of the aqueductus Sylvii and especially of the vena magna Galeni, also the unilaterality of the lesion, and the nearness of a heavy tumor starting in one hemisphere of the cerebellum, to the median line.

Massage for Asthenopia.—Pagenstecher observes that the treatment of diminshed functions of the eye, with normal or nearly normal vision, is difficult and complicated. Tenotomy and "darkness cures" are seldom needed. Careful examination, glasses and local treatment of the conjunctiva are important, but the remedies used must not be too powerful. Massage is most important of all. The points to be massaged are the bulbus, the lids, and the nerves emerging from the orbit, particularly the supraorbitalis. A large number of cases have been cured with massage alone, due to neuralgia (reflex) or to circumscribed sensitiveness of the ciliary body, also asthenopia caused by defective tension in one eye or by resections of the ocular muscles. Slight paresis of the ocular muscles can also determine asthenopia. Reflex asthenopia may be caused by affections of the nose or frontal sinus. Treating the general health proves frequently of the greatest importance. Relapses may occur even after the most brilliant successes.—*Munich Med. Woch.*, Dec. 20, 1898.

Duret's Operation for Inversio Uteri. As illustrated in the *Jour. des Sci. Méd. de Lille*, November 5, this operation "narrows the indications for vaginal hysterectomy which need only now be applied when the losses of blood forbid a conservative operation," according to its author. It consists essentially in a posterior colpohysterotomy, allowing the inverted uterus to be turned inside out again, as follows: 1, incision of the posterior vaginal cul-de-sac; 2, complete posterior colpohysterotomy; 3, turning forward the two halves of the vertically divided posterior wall of the uterus, connected by the still intact anterior wall, bringing the incised edges around and together in front, and suturing them in two stages; 4, double hermetic suture of the fundus down to the isthmus; 5, reduction and reposition of the uterus, very easily performed under these circumstances; 6, suture and remaking the cervix. Successfully applied by Duret, a somewhat similar method suggested by Piccoli has been also successfully employed by Morisani and Fava. These three cases reported establish the value of the operation, and show that the inverted uterus can be opened vertically its entire length, vertically turned inside out, closed with sutures, and replaced in the abdomen without danger.

Zinc Sulphate in Chronic Gastric Catarrh.—Caporali of Naples has treated certain chronic gastropathic conditions by irrigation with weak solutions of sulphate of zinc. The cases to which he would apply this treatment are those forms of gastric catarrh attended by an excessive flow of mucus. Four cases are mentioned wherein the results were highly satisfactory. These patients had suffered for more than a year (in one instance four years) with epigastric pain, anorexia, eructations and vomiting. The fluid withdrawn from the stomachs of these patients after a test-meal, contained little or no free hydrochloric acid or organic acids, but was loaded with glairy mucus. Lavage was practiced every day or alternate days. At first a solution containing .10 to .20 gms. (1.5 to 3 grains) of zinc sulphate per liter of water was used, then with each washing out the proportion of this salt was augmented .05 gm., arriving finally at a dose of .55 to .80 gms. (8.5 to 12 grains) per liter. Lavage was carried out with the stomach completely empty, and immediately followed by irrigation with a solution of bicarbonate of soda 2 or 3 per cent., with the object of converting any slight quantity of sinc sulphate remaining in the stomach into carbonate of zinc—an innocuous substance. Lavage with zinc sulphate conducted in this manner was always well borne by the patient and exercised a real curative action on the stomach catarrh, as manifested by a rapid diminution and finally disappearance of all morbid symptoms and progressive increase in the patient's weight. The cure was not temporary, but maintained. He also employed this treatment in three patients suffering from gastric trouble without hypersecretion of mucus; the results were negative.—*Treatment*, October 13.

THE
Journal of the American Medical Association
PUBLISHED WEEKLY.

SUBSCRIPTION PRICE, INCLUDING POSTAGE:

Per Annum, in Advance $5.00
Foreign Postage 2.00
Single Copies . . . . . 10 Cents

In requesting change of address, give old as well as new location.

Subscriptions may begin at any time and be sent to

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION
No. 61 Market Street (Occidental Bldgs.), Chicago, Illinois.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

This is obtainable, at any time, by a member of any State or local Medical Society which is entitled to send delegates to the Association. All that is necessary is for the applicant to write to the Treasurer of the Association, Dr. Henry P. Newman, 100 Washington St., Chicago, Ill., sending him a certificate or statement that the applicant is in good standing in his own Society, signed by the President and Secretary of said Society. Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership.

On receipt of the subscription the weekly JOURNAL of the Association will be forwarded regularly.

Gentlemen already members of the Association should send their annual subscription to the Treasurer, or direct to the JOURNAL office

All communications and manuscript of whatever character, intended for publication in the JOURNAL, should be addressed to the *Editor*, and all communications relative to the business of the JOURNAL, proof-sheets returned, or in regard to subscriptions, should be addressed to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 61 Market Street (Occidental Buildings), Chicago.

Original communications are only received with the understanding that they are exclusively contributed to this JOURNAL.

SATURDAY, JANUARY 21, 1899.

ACUTE INTERSTITIAL NEPHRITIS.

Acute interstitial lesions of the kidneys, characterized by exudation into the interstitial tissue, of diffuse as well as focal nature, accompanied by, but not dependent upon, degeneration of the epithelium, have been observed commonly in scarlet fever, diphtheria and other infectious diseases. The condition is regarded by some authors as the most frequent pathologic change in the kidneys in scarlet fever.

This form of disease of the kidney is generally accompanied by great enlargement of the organ, which is soft, grayish and opaque on section. In many cases the change occurs in circumscribed areas, located by preference either beneath the capsule, around the glomeruli, or at the bases of the pyramids. The changes above referred to have been previously described as acute interstitial nephritis, productive nephritis, granulating nephritis, and as lymphomatous nephritis. The writings of COUNCILMAN have dealt quite extensively with this interesting form of nephritis. In the Reports of the Boston City Hospital for 1897 he records several cases of this lesion in the kidney, and regards the cells in the interstitial tissue as coming from proliferation of the fixed cells, particularly of the vascular endothelium. Since then the continued microscopic examination of kidneys from a large number of cases of diphtheria, scarlet fever and other acute infectious diseases, the results of which are embodied in an article in the *Journal of Experimental Medicine*, September, 1898, has led to results that throw new light upon the lesion in question.

As to the macroscopic appearances, it may be stated that in most cases COUNCILMAN found that the kidneys were but slightly, if at all, enlarged, although the size to which a kidney may reach is sometimes quite extreme. The capsule is usually thin and easily removed; the surface is pale, grayish, opaque, mottled with hyperemic areas, and in some cases irregular, due to the projection of nodules more opaque than the surrounding tissue. The increase in size is principally in the cortex, the markings of which are indistinct; there may be opaque areas and lines on the cut surface. The tissue is soft and moist.

To come directly to the essential point in the results of the careful microscopic studies of COUNCILMAN, it was found that the general and focal infiltration of the interstitial tissue of the kidney, which gives rise to the nodules and other macroscopic changes, is composed of cells which correspond to those elements which UNNA first described under the name of "plasma cells." The focal nature of the cell accumulation is a general characteristic, so that often even in those cases in which there may be interstitial cellular infiltration in all parts of the kidney, the cells will be most abundantly crowded together in certain foci. As already stated, the foci are found in the subcapsular region, around the glomeruli, and at the bases of the pyramids. COUNCILMAN finds that the plasma cells are due to emigration from the blood-vessels, and are further increased in numbers by repeated division of the emigrated cells. In quite a few cases the blood-vessels at the base of the pyramids and elsewhere were found to contain lymphoid and plasma cells, without any emigration into the surrounding tissue. The cells may emigrate either as plasma cells or as lymphoid cells, COUNCILMAN agreeing with JADASSOHN, KROMPECHER and other writers, in regarding the plasma cells as being derived from the so-called lymphocytes.

The plasma cell, which it has become possible only recently to separate from the other cells in the cellular accumulations in inflammation, by means of certain technic methods, first devised by UNNA, is characterized by the blue stain which the protoplasm of the cell takes on when it is colored with alkaline methylene blue, by the constant eccentric position of the nucleus, the periphery of which stains deeply and often shows projections at certain points into the interior of the nucleus, from which an intranuclear network starts, connecting points within the nucleus with the points on the nuclear rim. The eccentric position of the nucleus may be so marked that it apparently projects from the protoplasm. In many cases the cells may have an irregular outline, due to the protrusion of knob-like protoplasmic masses resembling leucocytes fixed while engaged in ameboid movement.

One of the most important additions to our knowledge concerning the plasma cell brought forward in COUNCILMAN'S study of their occurrence in acute in-

terstitial nephritis is the fact he has shown that they may emigrate from the blood-vessels. Heretofore the lymphatic elements of the blood have not as a rule been regarded as capable of ameboid movements. Some of the illustrations accompanying COUNCILMAN'S article show these cells in the act of passing through the vessel wall. He is also, it seems, the first one to demonstrate that these cells may multiply quite rapidly within the vessels as well as in the tissues around them, by means of karyokinetic division. Many of the previous authors who have written about these cells have not been able to reach any definite conclusion as to whether the plasma cell should be looked upon as a normal, physiologic cell or as a pathologic one. COUNCILMAN makes the statement quite definitely that, in the normal individual, plasma cells may be found in the mucous membrane of the intestine, where they apparently constitute the entire tissue between the epithelium and the muscularis mucosa, and also in the spleen. In diphtheria, scarlet fever, and probably a number of the infectious diseases, the plasma cells are formed in great numbers in the spleen, bone marrow, and to some extent in the lymphatic glands. In the spleen he found them to develop from the cells of the Malpighian bodies, which are often principally composed of them, and to some extent from the lymphoid cells in the pulp.

Any adequate explanation of the focal character of these interesting lesions in acute interstitial nephritis can not yet be advanced. There are reasons for believing that certain circulatory conditions may play some part in the accumulation of these cells in the vessels at certain places. It is also possible that there may be soluble substances present in the interstitial tissue which exert positive chemotaxis upon these cells, and lead to their focal accumulation. Such substances may be present in the urine, which may exert its influence in different places. One thing seems quite certain, namely, that the foci are not explainable as due to primary degeneration of the epithelium, which is always degenerated in these cases, but the degeneration is diffuse. COUNCILMAN also noticed that where the degeneration of the epithelium is most intense, polynuclear leucocytes occur in the degenerated epithelium and in the tubules, so that the polynuclear leucocytes, not plasma cells, are attracted by the degenerated tissue.

Careful bacteriologic examination of the kidneys and other organs in these cases show that the foci of cell accumulation are not due to the local action of bacteria. In a number of cases of interstitial nephritis the kidneys were sterile, as shown both by cultures and microscopic examination, and when bacteria were found, their connection with the cellular foci could not be demonstrated. Where there was definite bacterial disease of the kidney the plasma cells found in the interstitial tissue occurred at the periphery of the purulent foci.

THE CONVULSIVE FACE.

The profoundly disturbing effect which epilepsy has upon the whole organism, altering its vital functions and secretions, has been an object of close study for years. From time to time various writers have portrayed the characteristics of epilepsy and its effects upon the physique. We have seen that the convulsive habit may manifest itself in many ways: in gait, in posture and purposeless acts. It appears logical to us that often repeated patho-physiologic phenomena, as seen in epilepsy, should leave behind it an impress of the convulsive habit. We frequently see in children, and even in adult epileptics, the convulsive hand, consisting of a flexing grasp of the fingers in the palm over the flexed thumb. And often after a severe epileptic fit the patient remains as in a mold fashioned by the convulsion. The arms and feet remain in strained and contorted postures, a more or less perfect cast of the last throes of the seizure. Nowhere in the physique is this phenomena more plainly seen than in the facial features. For days after a convulsion the facial muscles are incapable of acting in unison in emotional and purposeful acts. The lips have an uncertain tremulous movement in speech, from which action alone epileptologists are often able to declare that a seizure has occurred.

The activity of the so-called convulsive face produces a blurred image of the normal profile. The often repeated disarray of facial movements may produce in time a diseased physiognomy pathognomonic in epilepsy. Certainly there is as much evidence in declaring the entity of a convulsive face as that of a convulsive hand. Aside from the influence of neurasthenic states in epileptics, it is by no means rare to have patients of refinement and culture declare that their features bear the impress of the disease, especially about the eyes and mouth. The muscles about these parts most frequently participate in the seizure. To the casual observer the face in this disease may give no impression beyond a possible one of premature aging or a dulling of the facial appearance in those most afflicted, but experienced observation will disclose a peculiar sharpening of the naso-labial fold, persisting most in action; a lack of unity of expression about eye and mouth, in which probably the most signal failure lies in the discord of cerebral impulses. For years the speech of the epileptic has been known to be highly diagnostic, due for the most part to its arhythmic character. We might describe the epileptic face best if we were allowed to say that the arhythmia of sound in speech finds counterpart in the disordered play of expression of the face.

We are pleased to note from time to time that the more careful scientific studies on epilepsy do not tend to isolate it from other pathologic states of the nervous system for which there is no analogy or reasonable explanation. The malady finds expression not only in the epileptic seizure involving the involuntary

muscles at the time of the convulsion, but it also includes the whole organism in its disease-process, of which the facial appearance may present a fair index.

THE BEDBOROUGH TRIAL.

Dr. HAVELOCK ELLIS of London is a lawyer as well as a trained medical scientific man. He is the author and compiler of many valuable works on medicolegal topics. His papers on criminality and his studies of sociologic questions have given him a wide reputation in both this country and in Europe, and he published in 1894 a remarkable work "On Man and Woman," which was a pioneer study on the psychologic and anthropologic differences of the sexes. This was followed in 1897 by the first volume of a series of works on the general study of the psychology of sex. This work was called "Sexual Inversion," and was confined to the physiology and psychology of the normal sex impulse. It was translated into German and published at Leipsic, and was read with great interest by jurists and criminal anthropologists. Soon afterward it appeared in London and was very highly praised for its conservative, scientific tone. Finally, in May last, one GEORGE BEDBOROUGH, a bookseller, was arrested for having sold a copy of this book to a detective, and was charged with publishing and circulating an indecent, obscene book. He was speedily committed for trial and had some difficulty getting liberated on bail, which was fixed at the enormous sum of $2500. The injustice of this procedure, in holding the poor dealer accountable when the author and publisher were well-known prominent men, indicated a confused idea of the prosecution. The author and publisher prepared to make a sharp defense, and had accumulated the testimony of most of the leading medical scientists and foremost men in Great Britain to show that the work was no more obscene than the ordinary text-books on obstetrics. Over a hundred journalists had reviewed the work and had not discovered the least impropriety in its statements.

The trial took place in October last, and the dealer, fearing great loss, pleaded guilty to the principal charge and asked the mercy of the court. The judge with a great show of words, found him guilty and released him on heavy bail bonds to appear when called for to be sentenced. The author and publisher could not be heard by counsel or otherwise, and the judge asserted that the "strong arm of the law should be used to stop all such efforts to break up the morals of the English public."

The publicity of this trial roused up a wide-spread interest to see the work, but the author and publisher refused to sell any more copies. The few which were in the hands of the specialists and journalists were brought out and reviewed again with great praise. Both the *British Medical Journal*, the *Lancet*, and the *Medical News*, declare that it is a strictly scientific work and did not pander to morbid tastes. The editors of the *Journal of Mental Science* commend the treatment of the subject in this work for its high tone and medicolegal interest. Many foreign celebrities support the author, and the police judge and his friends have raised a storm of indignation which they little expected. The author is so thoroughly disgusted that he has decided to have the other volumes of the work published in this country, and the plates of the condemned book will be sent to New York and put into use at once. The narrow-minded zealots made a blunder which has been turned to a great profit by the publishers in many ways.

The assumption of judges on the scientific nature of works of medicine, and the blind zeal of ardent reformers, are a study in morbid psychology, of great interest. In contrast to this trial, some years ago a Philadelphia physician was arrested for writing an obscene book of advice to married people. The judge sent the work to a noted physician, who declared the work to be correct and scientific. The case was dismissed, but the prosecutor had a dealer arrested on the same charge. This was also dismissed by another judge. The agent of a society who made the charge wrote inflammatory articles in the press on the professions of law and medicine pandering to crime.

In the BEDBOROUGH case, the timidity of the dealer was an error which gives encouragement to the foolish efforts of unwise persons who would correct evils where they do not exist. The circulation of Mr. ELLIS' work in this country may rouse up a similar prosecution, but it is to be hoped that wiser counsels may prevail, and the merits of the work be made clear to all. The unrestrained publication of the works of KRAFFT-EBING and others in this country would seem to afford a precedent, and it may be said here that the treatment of the delicate subjects involved by Mr. ELLIS is altogether less open to objection than that of some of the other works above mentioned.

A FACTOR IN PROSECUTIONS FOR THE PRODUCTION OF ABORTION.

Perhaps there is no class of cases connected with medical practice that so often come into the courts as those having to do with the proper or illegal interference with pregnancy. On the one hand, the physician who, after consultation with a colleague, produces abortion for good and sufficient cause, is sued by an ungrateful patient, or husband, because it is claimed that unnecessary interference has been practiced. Such cases are usually of the character of blackmail. On the other hand, illegal practitioners are frequently put under arrest because they are accused of having produced this condition for improper reasons. In both instances the patient may be an important witness, and her testimony may result in the acquittal or conviction of the defendant.

This being the case, it is to be decided how competent she is as to her ability to testify. Her testimony

as to her conversation with the physician may be competent, but is she competent to tell exactly what that person did to her genital organs in the technic practiced by him? Can her statement that an instrument was passed into the uterus be relied upon in proving that its presence was responsible for the abortion that followed? The supposition is that her ability to so testify is competent, but as a matter of fact, there is grave doubt as to how much reliance can be placed upon it. Thus, in a case recently reported, a woman asserted that a midwife had caused her to abort by passing a catheter into the uterus, whereas the nurse asserted that she had simply passed it into the bladder and that the abortion which followed was a coincidence.

Because of this case CALMANN has attempted to determine how well developed is the localizing sense of the female in regard to her genitalia, and he asserts that it is surprisingly indifferent. Thus he claims that the average woman is unable to tell whether a foreign body is introduced into the urethra, the bladder, or the vagina with any degree of assurance, unless force is used, and that when this is done to the vagina, cervix or uterine cavity her ability to make a distinction utterly fails. CALMANN (*Archiv für Gynecologie*, lv, 2, 1898) also finds that there is no tactile sense in the cervix and fundus. He finds that pressure sense is present to a moderate degree in the urethra, but less so in the vagina and is absent in the uterus and that the same facts hold true even with temperature sense. He also asserts that while it is possible for a woman to have some idea of the circumference of a body introduced into the vagina, she can not as a rule judge of its length.

This typically German research on the esthesia of interior portions of female genitalia may be of great value in the medicolegal conditions we have just mentioned, and while it may aid in throwing doubt on the testimony of the chief witness in a truly criminal case, it will also serve to protect the regular practitioner who is prosecuted with deliberate intent to blackmail him or whose patient really believes herself maltreated, as in the case above named.

TOXINS AND ANTITOXINS.

Some months ago the JOURNAL referred editorially to some experimental researches on toxins and antitoxins by two English investigators, Drs. MARTIN and CHERRY, by which it seemed to be demonstrated that the counter-action of these substances is a chemic and not a vital one, it occurring as well *in vitro* as *in corpore*. Dr. MARTIN has recently published (Proc. Royal Soc., lxiv, 88) some further investigations, which supplement the above and throw additional light on some of the practical questions involved.

His experiments were made, like some of his earlier ones, with the venom of an Australian snake, *Hoplocephalus Curtus* and with a corresponding antitoxin prepared by CALMETTE. In his former researches he had found that there exists a decided difference in the molecular sizes of venoms or toxins and antitoxins, and had conjectured that while the former are albumoses, the latter may be globulins. That snake venoms are albumoses seems reasonably certain; their molecules are large, but not so large as those of the native proteids; they dialyse more rapidly than the latter, and are therefore more rapidly absorbed by the tissues. In experimenting upon rabbits, MARTIN found, in accordance with these facts, that when both venom and antivenin are injected, the former hypodermically and the latter into the veins, the same amount was required for neutralization as *in vitro*, while if both were injected hypodermically, then ten to twenty times as much of the antivenin was required. This shows that the venom is much more rapidly absorbed by the tissues than its antidote, they acting, as it were, as natural filters, while with the start it gains by direct introduction into the circulation, the antivenin is on equal terms with its antagonist.

The practical deduction from these results is in accord with those elsewhere obtained, in the antitoxin treatment of tetanus for example; we must find the special point of attack of the toxin and anticipate it as far as possible with its antidote, keeping in mind all the time the fact that, owing to peculiarities of molecular composition, the toxin may, under equal conditions, outstrip its competitors, and the effect of the antitoxin be practically lost. In this, as in human warfare, success is dependent upon facilities of transportation; the army wins its victories with its legs.

Naturally, each individual infection may have its own peculiarities, and in some cases, as, apparently, in diphtheria, it may be possible to overwhelm the toxin by administration of its antidotal serum by the hypodermic method. The indications of these studies, however, are that only by careful study of the molecular and chemic constitution of the special toxins and antitoxins and thorough physiologic researches as to their selective action in the organism, can we hope to to reach a really scientific and successful serum-therapy. The bio-chemist and the physiologist must work together to ascertain the facts that the therapeutist can rationally utilize.

MEDICO-MILITARY RANK.

The fault of the HULL bill (H. R. 11022) in dealing with the Medical Department of the Army lies in its failure to do justice to the medical officers, who have devoted the energies of a long life to the service, and who are looking forward to compulsory retirement at 64 years of age without having attained the highest grade outside of the surgeon-generalcy. At the present the provision made for the senior officers of the department is inadequate to do them justice. Six colonelcies are allowed to the corps of 192 medical officers; and that these are insufficient is shown by

the retirement of Lieut.-Col. J. V. D. MIDDLETON as a lieutenant-colonel, on December 15, 1898, after nearly forty years of service, during the last year of which he was chief surgeon of the Department of the Pacific, and was charged with all the responsibilities of caring for the troops of the Phillipine expeditions. In the other staff corps an officer is sure of retiring as a colonel after forty years of service. In these corps the increase proposed by the HULL bill preserves the relative proportion of colonels so that retirement with this rank continues to be assured to those who survive to the age of 64 years. In the case of the Medical Department, however, the relative number of colonelcies is diminished. Instead of retaining the proportion of six colonels to 192 officers, the bill in increasing the numerical force to 501, provides only ten colonels, thus increasing the likelihood of the occurrence in the future of such injustice as has recently been meted by existing law to Dr. MIDDLETON. The HULL bill provides that 2 per cent. of the personnel of the Medical Department shall be colonels, while it provides that 8.3 per cent. of the other staff corps shall have this rank. The Spanish-American war has shown that the duties of the Medical Department are of the highest importance. There should therefore be no discrimination against its officers. It is to be hoped that when this bill goes to the Senate some effort will be made to amend it in this respect. The whole of the medical profession is interested in this, as the rank and dignity of its military members are reflected on the status of the doctor in civil life. It is true, as BURNS says, "the rank is but the guinea's stamp," but this stamp enables the coined metal to have a greater efficiency than the crude nugget, and besides, in this instance, the rank is associated with increased pay, power and position while in active service, and with greater comfort and consideration during the declining years of life. Such of the members of the ASSOCIATION as have congressional influence would do a good work by bringing the subject to the notice of the Military Committee of the Senate, of which Gen. JOSEPH R. HAWLEY is chairman.

SANITARY RECOMMENDATIONS OF THE SURGEON-GENERAL OF THE ARMY.

The Surgeon-General has recently addressed to the Adjutant-General of the Army three communications which should have an important bearing on the medical history of our military camps and garrisons, whether in the United States or in the islands that have been brought under the protection of our flag. The first deals with the subjects of water-supply and the disposal of excreta in all camps. Portable filters, for the proper use of which company commanders should be made responsible, are recommended. In the disposal of excreta it is suggested that the expense of a sewerage system for a camp of some permanency is small as compared with that of an outbreak of typhoid fever, as clearly shown during the past summer; but as an alternative, when the camp is not to be occupied long enough to justify the establishment of a complete system of sewers, the Surgeon-General recommends the use of special receptacles in which disinfection shall be effected. In his second communication he discusses the insanitary conditions which experience has shown to be inimical to the health of unacclimated troops in the Island of Cuba, and makes special recommendations for the protection of the large force which will be exposed to danger during the coming unhealthy season in that island. The third and last communication relates to the advisability of authorizing the Commanding General at Manila to provide a hospital ship for the use of the troops in the Philippines and to establish a convalescent hospital at Nagasaki, Japan, or some other suitable locality, if in his judgment these are necessary for the restoration of the health of the sick and convalescent soldiers belonging to his department.

These communications are given in full on another page of this issue of the JOURNAL.

CORRESPONDENCE.

Precordial Area in Children.

BUFFALO, N. Y., Jan. 4, 1899.

To the Editor:—Although rather late, I would like to discuss the paper of Dr. H. B. Whitney on "Precordial Area in Children," published in the JOURNAL of Nov. 5, 1898. Although my work does not include attendance on many children—for some reason, children remain in the hands of the general practitioner when adults would seek a specialist—yet it seems that such a peculiar variation with age as Dr. Whitney assigns to the precordial area would have attracted attention. While agreeing with Dr. Hall's remark that percussion should be made with the fingers—personally, I rarely use more than the one finger—and with Dr. Musser's observation as to the possibilities of palpation in the intercostal spaces, I should like to urge the more general use of auscultatory percussion. By this method, the mapping out of organs is rendered very simple and positive. It is rather easy to outline the left and upper limits of the cardiac area by ordinary percussion, but the drawing of the right boundary is a difficult matter and often an impossibility, except by auscultatory percussion or one of the modifications, such as tuning-fork or friction, in connection with the stethoscope. If Dr. Whitney will use this method, I believe he will find the right limit of the cardiac area practically always to the right of the sternum, ignoring marked displacements of the organ. The heart, like the liver, and probably most other viscera, is relatively larger for the child than for the adult. Dr. Whitney is also correct in noting a change in the relations of the heart, after the age of about 8 years. I have noted somewhat analogous conditions in a paper now in course of preparation on the location of the stomach in children. The reason is that, with the development of the child, its habits of life change markedly at about this period; it begins to exercise violently, as compared with its former relative quietude. Thus, there is physiologic hypertrophy of the heart and, at the same time, both the natural tendency to increase of stature and the increased exercise tend to change the figure from the rotundity of early childhood to the leanness of youth. In other words, the apparent great change in the cardiac area is partly natural

and partly due to the greater ease of physical diagnosis. Auscultatory percussion, being relatively more exact and subject to less interference by thickness of the body wall, difference between fleshy and bony covering, etc., shows the areas of contact of organs with the body wall much more in accordance with the anatomic facts than do other methods. Thus, the changes noted by Dr. Whitney will be much less conspicuous. For several summers, it was my privilege to make physical examinations of thirty or forty up to eighty or ninety boys, ranging from 5 to 18 years of age. I did not pretend to locate the organs of all, but, in many instances, when the heart was beating forcibly or when there was a slight murmur, the area was also marked out. In such instances, it would usually be found to extend at least to the very top of the third rib, half a centimeter or more outside the left nipple, and a centimeter or two to the right of the right margin of the sternum. In a few cases, among the younger boys, these limits would be slightly exceeded. But, by auscultatory percussion, there was no such conspicuous difference among boys of different ages, nor between children and adults, as made out by Dr. Whitney by ordinary percussion.

Very truly,

A. L. BENEDICT, M.D.

Treatment of Colles' Fracture.

BOSTON, MASS., Jan. 2, 1898.

To the Editor:—You recently published an abstract from an English journal stating that an English surgeon (Hutchinson?) taught his hospital internes not to use splints on this form of fracture, "unless there was a tendency for the malposition to return after cessation of extension upon the wrist" (vide JOURNAL, xxxi, p. 1424). This variety of Colles' fracture, by the way, is extraordinary, at least on this side of the Atlantic. Roberts of Philadelphia says, in his admirable monograph on "Fractures of the Lower End of the Radius": "The displacement (in Colles' fracture) is the result, not of muscular action, but of the vulnerating force," and further, that "the muscular surroundings have little to do with the causation or continuance of the distortion." I think most surgeons will agree with him. Practically, therefore, this English surgeon advises that cases of Colles' fracture be treated without splints. It would be very unwise to follow the advice of this surgeon in private practice, though in hospitals a wide latitude must be allowed as to what is justifiable treatment. Seldom or never is a lawsuit instituted against a hospital, and therefore treatment that may be barbarous is tolerated by the hospital patient. In private practice, however, the law shields the patient, and the surgeon does not forget it—but to his cost. To tell a patient his wrist is broken and to send him off without a protective appliance would certainly invite a lawsuit. Even though in the case of a broken wrist, there be no absolute need of a splint to hold the parts in apposition, while reunion takes place there is need of a fixative appliance because of the comfort it gives the patient, and the protection it affords the wounded tissues from a fresh injury, ever liable, to occur. Permit me to quote from an article entitled "The Treatment of Colles' Fracture," read before the AMERICAN MEDICAL ASSOCIATION at the Philadelphia meeting (vide JOURNAL, xxix, p. 1044): "It can then be seen that, since the recognition by Colles of the real nature of this injury, there has been a marked tendency till within recent years to overtreat it with more or less harmful results. Sir Astley Cooper advised that four or five weeks be let elapse before passive motions be attempted in the aged. He remarked that recovery is slow, it sometimes being six months before the finger motions were restored. Agnew, Bryant, Moullin, Walshe and McClelland all recognize that the stiffness of the wrist and fingers is due to fibrinous exudation around the tendon sheaths about the seat of the fracture. Bryant states that passive movements ought to be employed by the surgeon at an earlier period than has been wont, but he does not specify the time. Moullin advises passive movements of the fingers from the first day, stating that this generally prevents stiffness of them. With the wrist, he states, it is generally more difficult (to prevent stiffness), but on several occasions I began gentle manipulations of the wrist on the fourth or fifth day with an excellent result." The writer's practice for several years has been, after reduction of the fracture, to mould a piece of wood-fiber splint material over the back of the forearm, wrist and hand, and to bandage it thereon, invariably he employs passive motion of the fingers and thumb from the first day of the injury, and of the wrist carefully from the fourth day. Generally the splint is discarded on the fifteenth day—good reunition having taken place between the fragments during that time. The splint lies directly next the skin, and is easily removed and reapplied—because there is no padding or upholstery to be cared for. It is extremely light and worn with real comfort. The writer uses this splint form because he has found it most efficient and convenient; but any protective appliance has his favor that permits of the *essential* of the proper treatment of Colles' fracture, i. e., passive movement of the fingers and thumb from the first day and of the wrist carefully from the fourth day; omission of splint from the fifteenth to the twenty-fourth day, according to the condition of the joint. This treatment of Colles' fracture is very efficient compared with the older methods. It is not in the text-books, with the exception of Moullin's. It undoubtedly will get into them all in time, for the treatment is rational, safe and efficient in practice. Respectfully,

EDWARD A. TRACY, M.D.

Removal of Superior Maxillary Branch of Fifth Nerve Under Cocain, for Relief of Neuralgia.

FAIRMONT, W. VA., Jan. 2, 1889.

To the Editor:—I was called, Dec. 29, 1898, to see a man 76 years old, who was suffering from a most intense neuralgia in the right side of the face. He gave a history of neuralgia for twenty-five years and, as usual, had gone the rounds for medical relief. He told me that if I did not succeed in relieving him he would be compelled to commit suicide, as he would not suffer longer. I gave him two deep injections of chloroform, eight minims each, and relieved him for a few hours. On the return of the pain I proposed removal of the nerve, to which he readily consented.

On beginning to give ether, owing to his having taken much morphin, to make life bearable, his respiration ran down to six per minute, and I at once discontinued the ether and used cocain over the line of proposed incision. I cut down over the nerve, tied off the artery and had but slight hemorrhage. Enlarging the opening below and extending into the foramen with a chisel, I reached back beyond the anterior dental branch and removed the whole trunk of the nerve. I then irrigated with a 1 to 1000 bichlorid solution, sutured with black silk, applied iodoform gauze, which remained five days, when dressing and stitches were removed, the wound having healed by first intention.

My patient remarked while I was doing the operation that the pain was very slight and nothing compared to his neuralgia. He walked from the operating-table to his bed, and after an hour sat up and ate his dinner and slept the whole of the following night, which he had not been able to do for many months, and has been comfortable ever since.

The above only shows what can be done for these sufferers five miles in the country, under cocain, and in a house with but two rooms.

JNO. R. COOK, M.D.

ASSOCIATION NEWS.

Board of Trustees Meeting.—At the special meeting of the Board of Trustees, held in Chicago, January 2, the selection of an editor to succeed the late Dr. John B. Hamilton was postponed until a future meeting, and in the meantime the JOURNAL will be issued by the Trustees, under the direction of

Dr. Truman W. Miller, Chicago, Chairman of the Publication Committee. An appropriation was considered to defray the expenses of the Committee on Public Health, of which Dr. Wingate is chairman. He will visit Washington, D.C., in connection with proposed public health legislation.

SOCIETY NEWS.

Golden Belt Medical Association.—The annual session of this association was held at Salina, Kan., January 5.

Camden County (N.J.) Medical Society.—This Society held its annual meeting January 3, and elected the following officers: President, Joseph L. Nicholson; treasurer, William H. Pratt; secretary, Edward A. Y. Schellenger.

McLean County Medical Society.—This society held its monthly session at Bloomington, Ill., January 5, with "Some Observations of the Medical Side of Army Life," by Dr. Bath, and other papers by Drs. Fulwiler and Fenelon.

Schuylkill County (Pa.) Medical Society.—This Society recently elected Drs. G. H. Halberstadt, president, W. C. J. Smith, vice-president, G. W. Farquhar, secretary, and David Taggart of Frackville, treasurer.

Kansas City Academy of Medicine.—The Academy will hold its annual banquet February 7. The recent election of officers resulted in: President, Hal. Foster; vice-president, J. W. Kyger; treasurer, C. Lester Hall; secretary, Ralph J. Brown; censor, J. Herbert Austin.

New Haven (Conn.) County Medical Association.—At the recent meeting, Frank W. Wright was chosen president of this association; Arthur N. Alling, first vice-president; N. R. Hotchkiss, second vice-president; R. A. McDonnell, secretary and treasurer.

Lucas County Medical Society.—At the annual meeting of this Society, held in Toledo, Ohio, January 6, Dr. Gillette was re-elected president. Other officers chosen were: William A. Dickey, vice-president; Dr. Wright, recording secretary; Geo. F. Suker, financial secretary, and D. E. Haag, treasurer.

Miami and Shelby County Medical Societies.—A joint session of these two Societies was held at Sidney, Ohio, January 5. Dr. J. E. Shellenberger of Piqua presented a paper on "Malarial Fever," and Dr. J. R. Caywood of Lexington a paper on "Chronic Constipation."

Warren County Medical Society.—At the January meeting of this Society, held in Monmouth, Ill., January 6, Dr. Wm. M. Harsha of Chicago, spoke on "Diagnosis in some Abdominal Surgical Cases." The program also included papers by Dr. Graham of Little York and Dr. Linn of Monmouth.

Lancaster County (Pa.) Medical Society.—The following officers have been elected by this Society for the ensuing year: President, William Blackwood; vice-presidents, I. N. Lightner, T. B. Appel; secretary, P. P. Breneman; corresponding secretary, J. R. Lehman; treasurer, George R. Rohrer; librarian, P. P. Breneman.

Jasper County Medical Society.—At Joplin, Mo., January 3, this Society chose the following officers: C. M. Ketcham, Carthage, president; R. L. Neff, Joplin, vice-president; J. H. Parseghian, Joplin, secretary; L. I. Mathews, Joplin, treasurer. The February meeting will be held in Webb City, and the March meeting in Carthage.

Medical Society of the State of New York.—The ninety-third annual meeting of this Society will be held in Albany, January 31 and February 1 and 2. The preliminary program has been received, and any communications relating to papers or any changes in the program, should be addressed to Dr. W. G. Macdonald, chairman of Business Committee, 27 Eagle Street, Albany, N. Y.

Fayette County Medical Society.—This Society will hold its thirtieth anniversary in Pittsburgh, Pa., May 18, 1899. The recent election of officers resulted as follows: President, W. N. Smith; vice-president, E. L. McDaniels; secretary and treasurer, L. S. Gaddis; assistant secretary, J. D. Sturgeon; censor, N. B. Lowman.

La Crosse County (Wis.) Medical Society.—The annual meeting of this Society was held January 4, and a committee appointed to confer with the Board of Health in regard to quarantining of diseases. Officers for the ensuing year were as follows: President, D. S. McArthur; vice-president, E. Evans; secretary and treasurer, J. A. L. Bradfield.

Johns Hopkins Medical Society.—The regular meeting of the Johns Hopkins Medical Society was held January 9, in the assembly rooms of the hospital. The program included an "Exhibition of Medical Cases," by Dr. T. B. Futcher, and papers on "Hemorrhagic Infarction of the Intestine," by Dr. W. H. Welch, and on "Acute Gonococcus Peritonitis," by Dr. H. W. Cushing. Dr. T. McCrae acted as secretary.

International Tuberculosis Conference.—According to the *Presse Méd.*, the German Central Committee for the Erection of Sanatoria is organizing an International Congress to discuss measures for the prophylaxis of tuberculosis, to be held at Berlin May 23 to 27. The Chancellor, Prince von Hohenlohe, is to preside, and Professor von Leyden and the Duke of Ratibor are actively engaged in promoting the work. Fifty sanatoria have already been erected through the efforts of the Committee.

Western Ophthalmologic and Otolaryngologic Association.—The fourth annual meeting of this Association is to be held in New Orleans, La., February 10 and 11. The preliminary program announces a large number of papers by leading practitioners in ophthalmology and otolaryngology. The officers of the Association are: J. Eliott Colburn, Chicago, president; W. Scheppegrell, New Orleans, first vice-president; Casey A. Wood, Chicago, second vice-president; H. Gifford, Omaha, Neb., third vice-president; Thomas A. Woodruff, Chicago, secretary; W. L. Dayton, Lincoln, Neb., treasurer.

Detroit Academy of Medicine.—At the meeting held January 10, Dr. Andrew P. Biddle read a paper entitled "The Influence of Parental Syphilis on the Offspring." He limited the very broad field of hereditary syphilis to a consideration of one phase, i. e., its etiology as acquired in utero. The much mooted question of whether an infected father can through diseased spermatozoa infect the offspring without infecting the mother also was discussed, and the plausible explanation, that by repeated inoculations through the placenta the mother is rendered proof against syphilis by seven or eight months of Pasteurization, accepted. A paternal luetic inheritance is less severe than the maternal, and especially than where both parents are infected. The severity is in inverse ratio to the duration since infection; after four or five years little danger of inoculation exists. A mother infected before conception is almost sure to infect the offspring; while infection at conception is very destructive to the offspring. When both parents are diseased at the time of conception many fruitless pregnancies will result.

Wayne County Medical Society.—At the regular meeting, January 12, Dr. J. R. Kestell read a paper on "Consumption: Its Cause and Treatment." The Doctor undertook to prove that the prime cause of pulmonary consumption is not so much in the condition of the lungs themselves, as in the general constitutional weakness of the person who contracts the disease. This constitutional dyscrasia he laid primarily at the door of a faulty diet, the eating of potatoes, pork, veal and other indigestible foods which clog the intestinal canal, ferment, and allow of the prolific multiplication of the tubercle bacilli; these readily find their way into the lacteals, and thence through the circulation into the lungs, already weakened by

poor nutrition, the foul air of overcrowded cities and the lack of expansion and vigor, from the sedentary habits of the patient; here they multiply and produce the dread disease. The treatment outlined was stated to be one which should be directed less against the bacilli than toward the building up of the patient by proper methods and the preventing of further infection; the prohibiting of potatoes, pork, veal and fats to the patient; good air and good surroundings; exercise; creosote and phosphates internally, and the careful attention to the alimentary tract. The etiology of the disease, as laid down by the author, was vigorously attacked by several of the members during the discussion.

St. Joseph (Mo.) Medical Society.—At the first regular meeting of the year, January 10, the following officers were elected for 1899: President, P. I. Leonard; vice-president, J. M. Richmond; treasurer, J. H. Flynn; secretary, J. M. Bell. A paper was presented by J. F. Owens on "La Grippe," outlining the differential diagnosis between it and influenza; and the treatment of la grippe. The points of analogy were noted and the differential symptoms dwelt upon; the latter being principally the muscular pains and prostration of the onset, absence of mucous congestion, involvement of the nervous system and atypic course of the fever. In treatment, the essayist avoided all coal-tar derivatives as too depressing, and confined himself to cathartics, as calomel, followed by quinin and Dover's powder. Dr. Jacob Geiger, in opening the discussion, called attention to the prevalence of appendicitis during an epidemic of la grippe, and accounted for it by the fact that the germs found in the diseased appendix, beyond the ordinary intestinal bacteria, are identic with those infesting the mucous membranes of the respiratory tract during la grippe. The treatment he adopted was a rational one of hygiene rather than any specific method, viz., warm drinks, keeping the emunctories active; rest and warmth in bed, and for gastric irritation, small doses of sodium salicylate. He regarded pronounced pain in the calf as almost pathognomonic. Dr. W. E. Elam regarded the disease a catarrhal fever differing mainly from other forms in its sudden onset and wide range of symptoms, the involvement of the respiratory and digestive tracts being too sudden to admit of the theory of extension, the etiologic factor being therefore a bacterium; the sudden and broad range of symptoms due to ptomain absorption. The speaker advocated stimulation with hot whiskey, together with the cautious inhibition of antipyrin for temperature. Dr. J. H. Flynn regarded an initial chill with abdominal pain—winter cholera so-called—pathognomonic of la grippe; a daily recurrence of the chill a common occurrence; pain in the flexors of the limbs and biparietal headache the most distressing features. He used free catharsis, followed by quinin and opiates. Dr. M. F. Weyman thought the moist skin and pallor of the face which Dr. Owens cited as an unusual factor in the presence of high temperature, due to nausea which persisted in gastric cases, and not, therefore, charactoristic of la grippe. Dr. P. I. Leonard holds the disease to be an acute infectious one, involving, primarily, the nervous system, as evidenced by the variety of nerve symptoms, hyperesthesia and anesthesia; frequency of the complications and slow convalescence. Dr. O. B. Campbell considered the subject one that required close study and observation; while it is rarely fatal in a well-balanced physique, it often develops capillary bronchitis in young children, which is serious; it is an unfortunate disease in those suffering from cardiac troubles, from its depression, and is equally fatal to the aged and exhausted. It is a disease that attacks mucous tissue primarily, and from the fact that meningitis is not an uncommon sequel, it is equally hard on the nervous system. Dr. J. M. Richardson considered la grippe an acute, specific, self-limited disease, requiring the attention of a good nurse rather than the physician. In regard to the vast array of coal-tar derivatives, Dr. Richmond was vehement in condemning their lauded virtues; he obtained better results from old and tried materia medica.

PUBLIC HEALTH.

Freire's Vaccinations for Yellow Fever.—Dr. A. Ramos is urging the Rio Janeiro Nat. Acad. of Medicine to request the "Government to put an end to Freire's vaccinations, as these inoculations are prejudicial to the health of the populace, keeping alive the germs, which without this would have been already banished from the country."—*O. Brazil Méd.*, Dec. 1, 1898.

Health in Indiana.—The report for December, 1898, indicates an enormous increase in influenza, with slight increase in bronchitis, pneumonia, tonsillitis and rheumatism. The diseases which decreased in area of prevalence were typhoid fever, intermittent fever, diphtheria and croup, scarlet fever, pleuritis, whooping-cough, inflammation of the bowels, dysentery and puerperal fever.

Incubation Period of Rabies in the Dog.—The generally accepted assumption that if a dog shows no symptoms of rabies after forty days, the danger is past, Abba refutes, with a number of instances, showing that the incubation period is extremely variable and has been known to last 246 days; several months in other cases. The only safe measure is to kill a suspected dog at once, as he may prove dangerous even after months have passed.—*Gaz. degli Osp.*, Dec. 18, 1898.

Isolation of Lepers.—The committee appointed by the Mexican Government reported adversely to isolation, observing that there was no question of isolating persons with syphilis, and yet that this was very much more contagious than leprosy and as serious in its results at times. In Colombia, on the other hand, every effort is being made to induce the Government to establish a leprosery, and a beautiful island off the coast, Coiba, eight miles long, is warmly recommended for the purpose of a leper colony, where they could be self-supporting to a certain extent. The *Revista Med. de Bogotá* for August urges prompt action and the erection of iron houses on the island, as the fame of Carrasquilla's leprosy serum has attracted many lepers, and the need of prompt isolation to protect the well is imperative.

Alcoholism.—Bonne scores the physicians of Germany for their apathy in regard to the question of alcoholism, observing that while wonders have been accomplished in the prophylaxis of cholera, typhus, diphtheria and smallpox, yet the most serious endemic plagues, syphilis, tuberculosis and alcoholism, are accepted as a matter of course. They form a terrible *circulus vitiosus* as syphilis is almost invariably contracted in connection with an acute alcohol intoxication, and the organism predisposed by alcoholism is much more liable to contract tuberculosis in jails, hospitals, etc. The family at home are also deprived of sufficient nourishment on account of the expenditure for drink, and hence are much more liable to succumb to tuberculous infection. He mentions the blessing that the Good Templar societies have proved in Scandinavian countries, where so much has been accomplished in combating alcoholism. Fourteen members of the present National Legislature are members of this society.—*Deutsche Med. Woch.*, December 15.

La Grippe.—The present epidemic or recrudescence of the "grip" appears likely to rival the original invasion of the disease in 1889 90. From all parts of the Northern States come reports of its prevalence; its march across the country has been exceedingly rapid, it appears to have reached San Francisco as early as January 1, though it was not announced as epidemic at some intermediate points till some days later. From the regions south of Baltimore and Washington or St. Louis we have fewer reports, but the disorder appears to be present in a mild form at New Orleans. It will be an interesting study for sanitarians to take up the propagation of this epidemic in connection with transportation lines and climatic conditions; it is possible some useful results may be

obtained. From abroad we hear that the disease is increasing the death-rate in London, and probably other European capitals have had or are having a like experience. The real cause of this exacerbation of influenza has not yet been elucidated; the fact that we have since 1890 had it more or less with us renders it needless to suppose a new introduction of the infection, and we have before us an interesting sanitary problem to explain the apparent especial severity of the disorder at the present time. Let us hope it is a last flurry, a dying kick, premonitory of its final disappearance.

Construction of Isolation Hospitals.—In the course of an article dealing with the subject of "Sanitary Principles in the Construction of Isolation Hospitals," contributed to the current issue of the *Engineering Magazine*, Mr. Middleton points out the importance of having the floor, wall and ceiling surfaces impervious and easily cleanable, and the necessity of freedom from places where dust can accumulate. To mention the former is enough to secure attention to it; but the latter necessitates that there shall be no flat ledges or sharp re entering angles anywhere, the junctions between floor and wall, and between wall and ceiling, and the corners of the room all having to be rounded. Doors must be made without panels, fitting into circular rebates in the frames; keyholes must be omitted and all woodwork especially sectioned. There must be no spot, in fact, where a duster can not get with ease.—*Sanitary Record*, Nov. 11, 1898.

Royalty Against Tuberculosis.—It is reported by cable that the Prince of Wales has presided at a private meeting at Marlborough House, convened by him to take steps to check the spread of tuberculosis. The Marquis of Salisbury, the Earl of Rosebery and a number of notable physicians spoke of the urgent necessity of educating the people in the means of preventing consumption, of checking the spread of tuberculous disease among cattle, and of erecting open-air sanitaria. The Prince of Wales, who has promised his heartiest support to the good work, called upon Great Britain to follow the good example set before her in the United States and Germany, in the effort to stamp out the disease. He mentioned the fact that the Queen had ordered the destruction of thirty-six of her dairy cows, which had been found to be suffering from tuberculosis, an example, he urged, such as other farmers ought to follow.

Health Reports.—The following cases of smallpox and yellow fever have been reported to the Supervising Surgeon-General of the United States Marine-Hospital Service, during the week ended Jan. 14, 1899:

SMALLPOX—UNITED STATES.

Alabama: Catherine, January 6, cases reported present, 1; Collerine, cases reported present, 1; Mobile, January, 3–6, cases reported present, 2.
Illinois: Bethel, January 7, cases reported present, 2; Media, January 7, cases reported present, 1.
Nebraska: Nebraska City, December 12, cases reported present, 3; Nebraska City, January 7, cases reported present, 3.

SMALLPOX—FOREIGN.

Belgium: Antwerp, December 3–26, cases reported present, 19; deaths, 6.
Brazil: Rio de Janeiro, November 26 to December 2, cases reported present, 8; deaths, 6.
England: London, December 17–24, 1 death.
Mexico: Monterey, December 23, 1 death.
Russia: St. Petersburg, December 3–10, cases reported present, 3.

YELLOW FEVER.

Mexico: Monterey, December 3 to January 5, 3 deaths.

Sanitary and Medical Inspection of Camps.—By direction of the Secretary of War, orders for formal and systematic medical and sanitary inspections of all military camps, posts and hospitals were promulgated from Headquarters of the Army, Dec. 31, 1898. The requirements of these orders are as follows:

A sanitary inspection of all military camps, including regimental, brigade, and division hospitals, will hereafter be made on Saturday of each week, and on the last Saturday of each month a medical inspection will also be made. A similar inspection will be made on the last day of each month of all military posts and general hospitals. The senior medical officer present will make these inspections for detached commands, military posts and general hospitals; brigade surgeons will make them for troops that are organized into and serving as brigades, and when special occasion requires and the general commanding orders, division, corps, or department chief surgeons will make them. A report of these inspections, with such recommendations as are deemed proper, will be made to the commanding officer, who will return it after indorsing thereon his views and action or his objections. The medical officer will then forward the report through military channels to the Surgeon-General of the Army. All commanding officers are directed to facilitate the prompt transmission of these reports to their proper destination. The sanitary inspection will consist of an examination of the quarters, their cubic airspace per man, space between tents, ventilation, lighting, drainage and general police; of the clothing and bedding, its sufficiency, adaptability and general condition; of the food-supply, its quality, variety and quantity, its preparation, cooking and method of serving; of the water-supply, its quality and quantity, for cooking, bathing and laundry purposes; of the disposal of excreta, by what methods, character of disinfection and cleanliness; of the habits, exercise and recreations of the men, and of the site of the camp, hospital or post, with reference to its healthfulness. The medical inspection will include an examination of the records of the hospitals as to their completeness and accuracy, and the promptness in forwarding them; of the medical, surgical and hospital supplies; their quality, quantity, condition, whether properly used, and if timely requisitions are made to avoid deficiencies; of the food-supply for the hospital, especially with reference to light diet for the sick; of the management of the diet kitchens; of the methods of day and night messing for attendants, male and female; of the public funds provided by existing regulations for the purchase of food; of the tentage, wheel transportation, and other articles furnished to the hospital by the Quartermaster's Department, their amount, usage and condition as to repairs; of public animals, their number and condition. Inquiry will be made into the character and causes of prevailing diseases and what steps have been taken to prevent them; into the attention to duty of medical officers, contract surgeons, enlisted men and female nurses, and into the discipline, instruction and efficiency of the Hospital Corps. Recommendations will be made for the correction of unsanitary conditions or of abuses that may exist, and note made on the next report of the action that has been taken regarding them. Special report will be made of professional incompetency, neglect of duty or general inefficiency of any medical officers. Forms for the inspection reports will be supplied by the Surgeon-General.

The Annexation of Hawaiian Leprosy.—The *British Medical Journal* recently referred to the problem presented by the prevalence of leprosy in Hawaii, a question which has become of pressing importance now that Hawaii has been annexed by the United States. Till 1849 leprosy was unknown in the Sandwich Islands. In that year, according to tradition, there landed in Hawaii two Chinese sailors, both of whom were lepers. The disease spread rapidly, and today it is estimated that nearly 10 per cent. of native Hawaiians are lepers, while many thousands have died of leprosy since the introduction of the disease fifty years ago. Unless the progress of the scourge is checked there can be little doubt that the native race will in no long time be entirely swept away. Now, however, that the United States Government has assumed the responsibility of the welfare of Hawaii, there is every reason to hope that vigorous measures will be adopted to avert this consummation. Dr. Burnside Foster suggests first of all that a department of public health, with a cabinet minister at its head, should be added to the existing administrative machinery of the United States Government. Next, a leprosy commission should be appointed to investigate the subject on the spot. This commission should be instructed to make an accurate census of the lepers in Hawaii, now estimated as not fewer than 6000, and to see that all infected persons are completely segregated. The laws at present in force in Hawaii authorize the segregation by the

health authorities of all known lepers, and it is believed that the laws are strictly enforced, but is known that for various reasons many lepers escape detection. The number of those with pronounced leprosy who remain at large is probably small, but there are undoubtedly several thousands of persons who have already become infected, but in whom the disease has not yet produced symptoms making its nature manifest. It is among such cases that the great danger of disseminating the disease lies. Among the early results of annexation will probably be a largely increased immigration to, as well as emigration from, the islands. Many of those who either know or suspect that they have the disease will undoubtedly attempt to escape to the United States, while immigrants who settle in Hawaii will be thrown into more or less intimate relations with the already infected but unrecognized lepers.

Vermont Medical Practice Act.—Through the secretary of the Vermont State Medical Society we have been favored with a copy of the Medical Practice Act approved by the General Assembly, Nov. 22, 1898. This Act is the result of long continued and persistent effort on the part of the Vermont State Medical Society. The three State medical societies, viz., the Vermont State Medical Society, the Homeopathic State Medical Society, and the Eclectic State Medical Society, all of which are chartered societies (and none other), may issue licenses, after an examination, to physicians holding a diploma from a medical college or university. The act is as follows:

It is hereby enacted by the General Assembly of the State of Vermont:

SECTION 1. Section 4633 of the Vermont Statutes is hereby ameded so as to read as follows:

Section 4633. Each board of censors shall issue certificates, without fee, to physicians and surgeons who present to such board a diploma from a medical college or university, and who also by examination satisfy said board of censors that they are qualified to practice the branches mentioned in such diploma.

SEC. 2. Section 4630 of the Vermont Statutes is hereby amended so as to read as follows:

Section 4630. State medical societies organized under a charter from the General Assembly, shall, at each annual session, elect a board of censors, consisting of three members, who shall hold their office until others are elected. Such board may examine and license practitioners of medicine, surgery and midwifery.

SEC. 3. This act shall take effect from its passage.

Casualties Due to Vehicles.—The quarterly reports of the New York City Board of Health show the number of fatalities caused by vehicles to be far in excess of the number caused by railroad, cable, electric, steam, or horse cars, notwithstanding the fact that there are fewer vehicles in New York than there used to be, and a much larger number of street-cars of all kinds. The recurrence of distressing accidents caused by vehicles seems to make proper some inquiry into feasible methods for their abatement, for it must be obvious that no good reason exists for the increase of such accidents at a time when the popularity of bicycles has had the effect of reducing on the streets the number of private equipages, curtailing the business of livery stables, and diminishing the number of cabs. Fast driving is less general in the crowded parts of New York City than was the case a few years ago, and one of the large dry goods houses has recently adopted, in part, the automobile method of propulsion for its delivery wagons. The accidents of which there is a serious complaint are due primarily to the fact that a considerable number of wagons for the delivery of merchandise in New York, and, particularly, the "light-rigged" wagons in which groceries are delivered are not driven by men capable of controlling horses and familiar with the rules of the road and the city ordinances for the protection of pedestrians, but, to a great extent, by boys, lacking the necessary physical strength and without the requisite understanding to avoid preventable accidents. These youths, chosen presumably for such service on account of nominal wages which they receive or the board and lodging which, as newcomers to the United States, they are glad to accept in lieu of wages, are the promoting cause of a majority of the accidents which arise from their inexpertness.—*Insurance Herald.*

Sanitary Recommendations of the Surgeon-General of the Army.—The recommendations referred to in our editorial columns are as follows:

1. In relation to water-supply and the disposal of excreta.—I have the honor to make the following recommendations with reference to the protection of our troops in permanent camps in this country and in the islands at present occupied by our forces from the infectious diseases which are liable to prevail where insanitary conditions exist:

a. No camp should be established unless there is an abundant supply of pure water for drinking, bathing and culinary purposes. Experience shows that reliance upon filtration or upon sterilization by boiling is very uncertain, owing to the difficulty of enforcing the use of the appliances provided for this purpose. Nevertheless, I recommend that portable filters of an approved model be supplied to troops in camp for use when on the march or under any circumstances where it becomes necessary to use water which may possibly be contaminated by the germs of any one of the infectious diseases which experience has shown to be most dangerous to troops in the field—typhoid fever, cholera, dysentery, camp diarrhea, yellow fever. Company commanders should be responsible for the proper use of these filters, and as they require frequent cleaning and careful using in order to preserve their efficiency they should be placed in the immediate care of a reliable and properly instructed noncommissioned officer, who should have a suitable detail to assist him in operating them for the filtration of all water used for drinking purposes.

b. Disposal of excreta.—It has been demonstrated that the germs of typhoid fever, cholera, dysentery and camp diarrhea are present in the discharges of those suffering from these diseases, and the propagation of these infectious camp diseases results to a large extent from failure to properly dispose of excreta. These diseases are frequently not recognized in the earlier stages or when the cases are mild in character, and the discharges of such persons thrown upon the ground or in sinks which are not properly disinfected almost inevitably lead to a propagation of the disease and often to a general camp infection. This can only be guarded against by a complete system of sewers and water-closets connected with them, by some efficient method of removing excreta from the camp, or by its prompt and complete disinfection in situ if sinks are used. Experience shows that the latter method is difficult to carry out and requires the most constant and intelligent supervision. The first cost of a complete system of sewers for a camp which is to be occupied for several months would be small compared with the expense resulting from an epidemic of typhoid fever, yellow fever or cholera. It may be safely said that the expense resulting from the large number of cases of typhoid fever in our camps during the past summer has been greatly in excess of the cost of a system of sewers, where this would have been practicable, or of some other efficient method of disposing of excreta. As the best alternative where a camp is not to be occupied long enough to justify the establishment of a complete system of sewers, or where for any reason this is impracticable, I would suggest the following method of disposing of excreta: I would provide a sufficient number of cylindric galvanized iron receptacles, eighteen inches in diameter and eighteen inches deep, provided with a galvanized iron cover and having a trough around the outside of the vessel, three inches deep, for the purpose of containing a disinfecting fluid, in order that when the cover is in position this may serve as a valve, preventing the entrance of flies or the escape of foul odors. A second cover of metal, having a proper aperture to serve as a privy seat, should be provided. When about to be used the enclosed cover would be removed from the iron receptacle, leaving the seat exposed. After use the cover should be at once replaced. These cylindric vessels could be partly filled with a solution of carbolic acid, or the contents could be treated with quicklime, dry earth or ashes. They should be removed at regular intervals, and the contents emptied into a pit far removed from the camp, or disposed of by cremation. There should be a sufficient number of these vessels to put a clean one in position when those requiring removal are taken away to be emptied and cleaned. These vessels should be cleaned by the use of boiling water (or by incineration if practicable).

2. *In relation to conditions in Cuba.*—In view of the occupation of the Island of Cuba by United States soldiers, a majority of whom will be subjected to climatic conditions to which they are unaccustomed, and to local insanitary conditions which past experience shows are very inimical to the health of

unacclimated troops, I have the honor to make the following recommendations:

a. The number of unacclimated troops should be no greater than is imperatively called for by the military occupation of the island, and so far as is practicable colored troops or native Cubans should be enlisted for this service.

b. Unacclimated troops should not be stationed in any of the yellow fever infected cities of the Island, and after the first of April they should not be permitted to visit these cities unless an urgent military reason makes their presence necessary. Camps should be located so far away from these infected cities that unauthorized intercourse will be difficult, and stringent orders should be made and enforced to prevent such intercourse. Every camp should have a quarantine camp and hospital for the detention under observation of all persons who have been exposed—either with or without authority—in a yellow fever infected locality. All suspicious cases of fever should at once be removed to the hospital at the quarantine camp.

c. The most stringent regulations should be enforced to preserve the health of the troops. As a basis for such sanitary regulations I respectfully call attention to the following extract from my Circular No. 1, dated April 25, 1898: "In Cuba our armies will have to contend not only with malarial fevers and the usual camp diseases—typhoid fever, diarrhea, and dysentery—but they will be more or less exposed in localities where yellow fever is endemic and under conditions extremely favorable for the development of an epidemic among unacclimated troops. In view of this danger, the attention of medical officers, and of all others responsible for the health of our troops in the field, is invited to the following recommendations: when practicable camps should be established on high and well-drained ground not previously occupied. Sinks should be dug before a camp is occupied, or as soon after as practicable. The surface of fecal matter should be covered with fresh earth, quicklime or ashes three times a day. New sinks should be dug and old ones filled when contents of old one are two feet from surface of ground. Every man should be punished who fails to make use of the sinks. All kitchen refuse should be promptly buried and perfect sanitary police maintained. Troops should drink only boiled or filtered water and coffee or tea (hot or cold), except where spring water can be obtained which is pronounced to be wholesome by a medical officer. Every case of fever should receive prompt attention. If albumin is found in the urine of a patient with fever it should be considered suspicious (of yellow fever) and he should be placed in an isolated tent. The discharges of patients with fever should always be disinfected at once with a solution of carbolic acid (5 per cent.), or of chlorid of lime (6 oz. to gallon of water), or with milk of lime, made from fresh quicklime. Whenever a case of yellow fever occurs in camp the troops should be promptly moved to a fresh camping ground located a mile or more from infected camp. No doubt typhoid fever, camp diarrhea, and probably yellow fever, are frequently communicated to soldiers in camp through the agency of flies, which swarm about fecal matter and filth of all kinds deposited upon the ground or in shallow pits, and directly convey infectious material, attached to their feet or contained in their excreta, to the food which is exposed while being prepared at the company kitchens, or while being served at the mess tent. It is for this reason that a strict sanitary police is so important. Also because the water-supply may be contaminated in the same way, or by surface drainage. If it can be avoided, marches should not be made in the hottest part of the day—from 10 A.M. to 5 P.M. When called upon for duty at night or early in the morning, a cup of hot coffee should be taken. It is unsafe to eat heartily or drink freely when greatly fatigued or overheated. Ripe fruit may be eaten in moderation, but green or over-ripe fruit will give rise to bowel complaints. Food should be thoroughly cooked and free from fermentation or putrefactive changes. In decidedly malarious localities from three to five grains of quinin may be taken in the early morning as a prophylactic, but the taking of quinin as a routine practice should only be recommended under exceptional circumstances. Light woolen underclothing should be worn, and when a soldier's clothing or bedding becomes damp from exposure to rain, or heavy dews, the first opportunity should be taken to dry it in the sun or by fires.

d. When cases of yellow fever occur in a camp or barracks under such circumstances as to indicate that the locality is infected, the troops should at once be removed. The disastrous mistake has frequently been made of removing the sick and leaving the well in an infected locality. To repeat this mistake in the light of our present knowledge would be unpardonable. The most dangerous towns upon the island of Cuba, so far as yellow fever is concerned, were pointed out by me in a letter to the Honorable the Secretary of War, dated March 25, 1898. This list includes all the principal seaport cities—Havana, Matanzas, Cardenas, Cienfuegos, Sagua, Manzanillo, Nuevitas, Santiago and Guantanamo. The disease is also endemic at Puerto Principe, Remedios, Jaruco, San Antonio, and certain other inland towns.

3. *In relation to troops in the Philippine Islands.*—I have the honor to invite your attention to the following extract from a report made by Lieut.-Col. Henry Lippincott, chief surgeon at Manila, dated Oct. 23, 1898: "I may remark that convalescence from all diseases, and especially from typhoid fever and dysentery, is exceedingly slow in this climate on land, and consequently the necessity for a hospital ship is felt. It is surprising what effect five or six days on the water has upon such convalescent patients when otherwise properly cared for. I was informed that the *Scandia* was coming as a hospital ship, but the Board of Medical Officers who examined her find that she is unsuited for the purpose without extensive alterations, which can not be made here and must be done in Hong Kong. I am, therefore, compelled to keep patients on land, and see convalescents accumulate until the hospitals are filled to overflowing." The following suggestion is made in a communication addressed to the Honorable the Secretary of War by Samuel W. Belford, assistant adjutant-general: "If hospitals could be established—I have no doubt as to the feasibility of the project—at the ports outside of the Philippine Islands, the health of the men would be vastly improved and the losses considerably lessened. For instance, if hospitals could be built on the European concession at Nagasaki, and the sick men taken from Manila when they are able to travel, it would be of considerable advantage to the army. Cases that are reported to be sick in quarters could be removed from Manila on Government transports and sent either to Japan or Hong Kong. In my judgment it would have a very salutary effect for many reasons. In the first place, it would take men out of Manila, and that in itself would be as essential in restoring health as any course of treatment could be. Two weeks or a month spent in Hong Kong or Nagaski would improve the spirits of the men immensely, and they could return to duty and be serviceable instead of being sent home to the United States." I respectfully recommend that these suggestions be brought to the attention of the Commanding General at Manila, and that he be given authority to equip a hospital ship and also to establish a convalescent hospital at Nagasaki or some other suitable locality, if, in his judgment, this is necessary for the restoration of the health of sick and convalescent soldiers belonging to his army.

BOOK NOTICES.

The Sexual Instinct. Its Use and Dangers as Affecting Heredity and Morals. By JAMES FOSTER SCOTT, B.A. (Yale University), M.D., C.M. (Edinburgh University), New York: E. B Treat and Co., 1899.

This volume contains little or nothing of medical value that ought to be new to a well-posted physician, and there might be some question on some accounts as to its value for indiscriminate circulation among the laity. The really useful information it contains could probably be best communicated personally by parents and instructors. To these classes and to the clergy, when not otherwise informed on its subject, it may be useful. Still these are matters for personal judgment; the book is certainly better than many of those now extant on its special subjects.

An Atlas of Bacteriology, containing One Hundred and Eleven Original Photo-Micrographs with Explanatory Text. By CHAS. SLATER, M.A., M.B., M.R.C.S. Eng., F.C.S. and EDMUND J. SPITTA, L.R.C.P. Lond., M.R.C.S. Eng., F.R.A.S. Pp. 120, excluding plates. London: The Scientific Press, limited, 28 Southampton Street, Strand, 1898. Price $2.50.

This work, which is patterned after Fränkel and Pfeiffer's large "Atlas der Bakterienkunde," aims to be a laboratory handbook to direct the attention of the student to certain points he should observe in his preparations, at the same time as it helps the teacher by providing a series of grouped illustrations; whilst, on the other hand, it is thought it may find a place in the library of the medical officer of health and other practitioners, as an atlas to which on certain occasions he may

find it convenient to refer. The book is no sense a text-book, the letter press serving merely to link together and emphasize the teachings of the photographs. Bearing this avowed aim of the book in mind it may be safely said that the authors have done their work well. The photographs are clear, truthful and pleasant to look at, the reproduction being skilful and painstaking. The book is cordially recommended to those who are in need of a handy collection of excellent photographs of the important micro-organisms.

Transactions of the American Orthopedic Association.—Vol xi. Cloth. Pp. 461. Illustrated. Philadelphia: Published by the Association, 1898.

This volume contains the proceedings of the twelfth session, held at Boston, Mass., May 17-19, 1898, and includes the following papers: "Pathology in its Relation to Orthopedic Surgery"; "Traumatisms of the Spine Simulating Pott's Disease"; "Hallux Valgus Extremus"; "The Boot as an Orthopedic Appliance"; "Observations on Morton's Painful Affection of the Fourth Metatarso-Phlangeal Articulation"; "Arch of the Foot in Infancy and Childhood"; "Sitting Posture and a Proposed Apparatus for Patients Shortened by Pott's Disease"; "Brace for Cervical Spondylitis"; "Orthopedic Appliance Shop"; "Correction of Spinal Deformity by Stages"; "Immediate Correction of Deformities from Pott's Disease," with others by leading orthopedists of this country.

A Syllabus of Materia Medica.—Compiled by WARREN COLEMAN, M.D., instructor in Clinical Medicine and Materia Medica in Cornell University, Medical Department. One Vol. 16mo. Pp. 175. Polished buckram. New York: William Wood & Company. $1.00 net.

This pocket volume is the outcome of several years' classroom experience and an attempt to aid the memory by presenting the facts in condensed form, with special grouping of the drugs. White's "Materia Medica and Therapeutics" furnishes the basis for the doses cited here, and much of the other material.

Medico-Chirurgical Transactions. Vol. lxxxi. Cloth. Pp. xcix and 461. Illustrated. London: Longmans, Green & Co., 1898.

This volume of transactions of the Royal Medical and Chirurgical Society of London, done on excellent paper, and well edited, contains many papers of value to the practitioner of medicine and surgery, with numerous full-page plates in colors, and much miscellaneous information. Among the papers are the following: "Calcareous Metamorphosis of the Tracheal Lymphatic Glands," by Sidney Phillips; "Pathology of the Pernicious Malarial Fevers of Sierra Leone," by George Thin; "Obscure Cystic Tumor of the Bladder," by P. J. Freyer; "On Mesenteric Cysts," by Frederic Eve; Discussion on the "Prevention of Enteric Fever;" "Latency and Freedom from Recurrence after Operations for Reputed Carcinoma of the Breast," by A. Marmaduke Sheild; "Removal of the Entire Upper Extremity for Recurrent Carcinoma, after Removal of the Breast," by Clinton T. Dent; "Epidemic Malarial Fever of Assam," by Leonard Rogers; "Case of Cyst of the Urachus," by Alban Doran; "Five Cases of Acute Leukemia," by J. Rose Bradford and H. Batty Shaw; "Influence on Gout of the Mineral Constituents of Various Vegetables," by Arthur P. Luff; "Acute Dilatation of the Heart in Rheumatism and Chorea of Childhood," by D. B. Lees and F. J. Poynton.

Doctor Therne. By H. RIDER HAGGARD. Cloth. Pp. 209. New York. Longmans Green & Co., 1898.

"Doctor Therne" is a fascinating story and a well-painted picture of the results liable to accrue from the antivaccination agitation which so recently led the British Parliament "under the guise of a 'graceful concession,'" to yield to the anti-vaccinationists and place the health of the country, without appeal, in the hands of the "conscientious objector." It will repay reading by every physician. We highly commend the taking up of the right side of a question of this importance, by a popular novelist.

Diseases of the Skin: An Outline of the Principles and Practices of Dermatology. By MALCOLM MORRIS, Surgeon to the Skin Department St. Mary's Hospital, London, etc. With 10 colored plates and 26 engravings. New and Revised Edition. Philadelphia: Lea Bros. & Co.

The revised edition of this compendious handbook indicates the favor with which it has been received by the profession of two countries. Mr. Morris has won a deserved reputation for his thoroughness as an investigator, for his fearlessness as a critic of the work of other men, for his scholarly attainments, and for his lucid style. The book as it is offered today furnishes a careful summary of what is generally accepted in the field of cutaneous medicine, and it commends itself thus especially to the student on the benches of the medical school. The chapter on the Principles of Diagnosis is one of the best ever written on the subject, and commends itself to every diagnostician in the field of inner medicine.

We regret that our English brethren still cling to their old-time fondness for the term "rodent ulcer" which has again been summoned to the bar of international criticism and condemned. There is no "rodent ulcer" which is not a typic epithelioma in its origin, career, and pathologic exhibit throughout. The claim made by A. Jacob that its exceedingly slow evolution, the conditions of the edges of its ulcer, its insignificant subjective symptoms, and its incurability save by extirpation, establish its individuality, is so flimsy that one wonders how Mr. Morris, usually so clear-sighted, should fall under the sway of British traditions in this matter. None of these considerations should weigh for a moment in assigning to its proper category a disorder which is demonstrated daily and without exception to belong in all particulars to the domain of pure and simple epithelioma.

One naturally turns to the subject of ringworm in examining a treatise from the hand of an author who has supplied so good a monograph on that subject. Of Mr. Morris' 126 cases selected for study, 92 per cent furnished evidence of the presence of the small-spored fungus (*Microsporon Audouini*): figures much higher, as the author admits, than those of Saboureaud, who has been a pioneer in the cultivation of this interesting field. Comparing Mr. Morris' figures with those very recently published by Dr. Charles J. White of Boston, we learn that of 279 cases seen by the last-named observer, only 52 per cent. represented the incursions of the Microsporon Audouini: figures far nearer the French exhibit, and suggesting that in Boston and Paris there is a greater tendency than in London to the transference of the disease to men from the lower animals. Considering the preponderance of the disease in the male sex, as shown by the Boston statistics, this hypothesis secures a reasonable foundation. Decidedly the most obstinate and extensive of the instances of ringworm of the head seen in Chicago are of the large-spored class.

Mr. Morris' work is enriched with plates, many of which admirably illustrate the diseases described in the text. A few, such as the contrasted faces labeled "lupus vulgaris," "rodent ulcer," and "tuberculous syphilide" accentuate their contrasts more by definition than by color, too few stones having been employed to exhibit in due suggestiveness the delicate hues peculiar to each malady.

The work of the publishers is highly satisfactory.

NECROLOGY.

JOHN PETER SHARER, M.D., Albany, N. Y., 1846, College of Physicians and Surgeons, New York, 1848, died of cardiac disease, January 7, aged 75 years. He was a general practitioner for over fifty years, at Little Falls, N. Y., of which town he had

been president and afterward supervisor. He was active in the New York State Medical Association, of which he was an original member.

NEWTON G. TUCKER, M.D., Nashville, Tenn., professor of Theory and Practice, Meharry Medical College, died January 8, He was graduated from the University of Nashville in 1861 and a member of the AMERICAN MEDICAL and American Public Health Associations.

JOHN TEARE, M.D., Chicago, died January 9. Dr. Teare was born in the Isle of Man in 1818, was graduated from the Royal College of Physicians and Surgeons, London, in 1845, and in the early '50s came to Chicago, where he practiced his profession up to within a short time of his death.

JOHN WILLIAM WARTH, M.D., College of Physicians and Surgeons, New York, 1868, died in Brooklyn, N. Y., Jan. 8, 1899.

H. DE VALSON PRATT, College of Physicians and Surgeons, New York, 1881, of Elmira, N. Y., died there January 12, aged 42 years.

DANIEL LUCIUS ADAMS, M.D., Harvard, 1834, once a practitioner in New York City, but who retired in 1865, died in New Haven, Conn., January 3, aged 84 years.

HOWELL Y. MANGUM, M.D., Metropolis, Massac County, Ill., died Dec. 26, 1898.

EDWARD G. FIELD, M.D., Castleton, Vt. 1847, died of cardiac disease in New York City, January 8, aged 76 years. Although well educated, he never became an active practitioner and for many years was a member of the N. Y. Stock Exchange. He died unmarried.

CHARLES C. P. CLARK, M.D., College of Physicians and Surgeons, N. Y., 1849, died at his home in Oswego, N. Y., January 11. He was an alumnus of the Middlebury College (Vt.) class of 1843, and spent some time in Paris in professional studies. After his return to America he became known as a man of wide culture, with a bias toward philanthropic and economic affairs. He was a Collector of Customs from 1869 to 1871, and became author of the Clark Election bill which twice passed the N. Y. State Legislature. He was born in Middlebury, Vt., in 1822.

CLINTON L. ARMSTRONG, M.D., Cincinnati, Ohio, was buried January 7 . . J. Barton Cox, M.D., St. Genevieve, Mo., Dec. 31, 1898 . . J. W. Dawson, M.D., Canon City, Colo., Rush Medical College, 1871, January 8, aged 65 years . . John J. Diet, M.D., New Orleans, La., January 9, aged 45 years . . Alexis Carl Hartmann, M.D., St. Louis, Mo., January 10, aged 60 years . . Moses D. Hoge, M.D., Richmond, Va., January 6, aged 81 years . . J. Chester McPherson, M.D., Brunswick, Mo., January 4, aged 42 years . . Thomas R. Moss, M.D., Dyersburg, Tenn., January 7 . . Thomas H. O'Connor, M.D., Boston, Mass., January 1, aged 41 years.

MISCELLANY.

Physician Elected Mayor.—Dr. John W. Bean has been elected mayor of Ellensburg, Wash.

Dr. G. Frank Lydston.—Dr. G. Frank Lydston, Chicago, has been seriously ill, but is now reported convalescent.

Seattle Health Officer.—Dr. M. E. A. McKechnie has been appointed health officer of Seattle, Wash., to succeed Dr. C. A. Smith, recently resigned.

State Medical Corps.—The medical corps of the Minnesota National Guard was recently reorganized with Dr. Chas. E. Dutton of Minneapolis as chief surgeon with the rank of major.

Pathologist Resigns.—Dr. Florence H. Watson, pathologist at the Pennsylvania State Hospital for the Insane, Norristown, has resigned.

Toledo Hospital Staff.—The recently chosen staff for the Toledo (Ohio) Hospital is as follows: Drs. L. H. Bodman, Jas. A. Duncan, G. W. Newton, and L. C. Grosh.

Dr. Joseph Grindon.—At the annual election of officers of the St. Louis Medical Society, recently, Dr. Joseph Grindon of St. Louis was chosen President.

Sanitary Relief Association.—At Atlanta, Ga., an association to be known as the Atlanta Sanitary Relief Association has just been organized.

Chicago Eye, Ear, Nose and Throat College.—Dr. Horace M. Starkey, Chicago, has been elected to a professorship in ophthalmology in this college.

Dr. E. R. LeCount.—Dr. E. R. LeCount, assistant professor of pathology in Rush Medical College, Chicago, who has been seriously ill for several weeks, is reported much improved.

Banquet to Dr. Dwight.—At the Carney Hospital, Boston, a banquet was tendered January 3 to the out-going president, Dr. Thomas Dwight, and the incoming president, Dr. H. L. Burrell.

Yale Medical Incumbent.—Assistant Professor Benjamin Moore, of the University College, London, was recently called to the Yale Medical School, New Haven, Conn., to take the professorship of physiology, held last year by Prof. Graham Lusk.

Memphis Physician Remembered.—Dr. N. F. Raines, superintendent of the Shelby County (Tenn.) Poor and Insane Asylum, was presented recently with a Scottish Rite Masonic gold ring by his medical staff and employees.

Johns Hopkins University.—According to press reports, the trustees of this institution have accepted the resignation of Dr. Wm. H. Welch as dean of the medical school and have elected Dr. Wm. H. Osler as his successor.

Philadelphia Polyclinic.—Dr. F. R. Packard has been appointed Dean of the College Department of the Philadelphia Polyclinic, an office newly created in order to facilitate the arrangement of time and work by the students. Dr. Thomas S. Kirkbride, Jr., has been appointed director of the laboratories.

Michigan College of Medicine and Surgery.—The Board of Trustees of this institution have just established a new chair of military hygiene and dietetics, and elected Dr. Jno. F. Bennett to the chair. Dr. R. H. Honner was elected professor of materia medica.

Chinese Medical Journal.—According to the *British Medical Journal*, the first number of a new magazine, *A Medical Journal of Medicine, Surgery and Hygiene*, has just appeared in China, edited by Wan Tün Mo, a diplomate of the Imperial Medical College, Tien-Tsin, at present surgeon at the Alice Memorial Hospital of Hongkong.

Association of American Medical Colleges.—On account of the increasing interest in this Association, the secretary, Dr. Bayard Holmes, wishes to inform the medical profession of the country that the library of the College of Physicians and Surgeons, Chicago, has been made the depository of the Association, and that the librarian, Miss Grace W. Bryant, is preparing a bibliography of all publications of the Association and of all that have reference to it. This includes a duplicate list from which any of the included publications will be sent to libraries or the officers of societies asking for them. The list is not absolutely complete as yet, and any contributions will be thankfully received. The secretary expects to be able to publish, early in March, the substance of the rulings of the judicial council made in answer to questions actually submitted by colleges or medical students. Any information required as to desiderata or other particulars can be obtained from the secretary, Dr. Bayard Holmes, 104 East Fortieth Street, Chicago.

"Alienist and Neurologist."—The January, 1899, number of this quarterly will be an anniversary number, and in honor of its twentieth anniversary the issue will contain many special papers by prominent writers.

Prizes Awarded by Paris Academy of Medicine.—The annual distribution of prizes, in which thousands of dollars are awarded, recently occurred at Paris. Few of the prizes were presented entire; none came across the Atlantic to this country, but some were awarded to persons outside of France. Among them we note the names of Czerny and Trunecek of Prague, 1200 francs for their treatment of epithelioma of the face with arsenious acid (vide JOURNAL, xxx, p. 1116). A. Rondino of Naples received the Capuron prize of 1500 francs for the best article on experimental studies on some obstetric subject. The Herpin prize of 1200 francs was awarded to Jules Janet of Paris for his article on "The Abortive Treatment of Gonorrhea." The Mège prize of 900 francs, subject, "Hay-fever," was divided between Garel, Lyons, and Guder, Geneva. The Orfila prize, 2000 francs, was awarded to Guinard and Dumarest for their excellent research on picrotoxin (vide JOURNAL, xxx, p. 1585). The Tremblay prize of 7200 francs was divided between Albarran and Motz (vide JOURNAL, Jan. 7, 1898, "Sexual Operations for Hypertrophied Prostate"), Bazy, Delore and Guiard. The female sex was honored in the person of Madame Hervieu of Sedan with an enamel medal for her great work in promoting hygiene among children, also by a number of silver and bronze medals for the efforts of women in promoting vaccination. Several prizes were not awarded on account of the non-reception of competing articles. The Audiffred prize, an annuity of 24000 francs for an absolute cure for tuberculosis, in connection with which Hirschfeld's results with oxytuberculin were mentioned last year, was not awarded, but 2000 francs "encouragement" were bestowed upon J. Auclair of Paris and a smaller amount upon Auché and Hobbs of Bordeaux.

Students' Club-House.—Our foreign exchanges refer admiringly to the handsome and well-equipped students' club-house, gymnasium and natatorium erected and endowed at Königsberg, Prussia, by Dr. F. Lange of New York, as a gift to his Alma Mater. The endowment includes a fund to loan to deserving students.

Board of Health for Indian Territory.—Congressman Little of Arkansas has presented a bill before Congress for a Board of Health for the Indian Territory, granting jurisdiction over the proposed Board by United States courts of the Territory and appropriating $2000 for the purpose.

Bequests.—According to the *Outlook* of January 14, Lord Iveagh has presented $1,250,000 to the corporation of Dublin, Ireland, for the improvement of the very unsanitary district in that city near St. Patrick's Cathedral and $1,250,000 to the Jenner Institute for the appropriation of researches in bacteriology and other departments in which researches tend to prevent diseases.

Object to Word "Lunatic."—By section 23 of chapter 433 of the Massachusetts Acts of 1898, the word "lunatic," wherever it occurs in the names of the several hospitals and in the laws of the commonwealth relating to the insane is stricken out, and the term "insane," or "insane person" is substituted therefor.

Lectures for Hospital Patients.—The Paris Union for Social Education has inaugurated a series of lectures in the hospitals for the benefit of patients who are not confined to their beds. Interesting and instructive subjects are selected in all branches of science, history and literature.—*Jour. des Sci. Méd. de Lille*, Dec. 17, 1898.

Advisory Staff of Cook County Hospital.—President Irwin of the Board of County Commissioners, has appointed sixty physicians on the staff of the Cook County Hospital, Chicago, whose privileges are to inspect the hospital at all times and see that the rules of the institution are enforced.

Myoma.—Carefully investigating the vascular system in seventy-one cases of myoma, Strassman and Lehman find that degenerative conditions in the heart musculature accompany the myoma, and also that the development of the myoma seems to be dependent upon primary heart and vascular alterations. "The proliferation of uterus tissue (myoma) and the alterations in the heart, vessels and uterus, possibly all proceed from a single affection causing vasomotor disturbances." *Munich Med. Woch.* from *Arch. f. Gyn.*, lvi 3.

Norwegian Hospital, New York.—Lucian McCollum, for many years house surgeon, has resigned, and Dr. Lange, the ambulance surgeon, has been promoted to fill the vacancy. Dr. Lange is succeeded by A. E. King, a graduate of the Long Island College. Dr. McCollum will take up private practice in Brooklyn.

Hospitals.—Secretary Alger has transmitted to Congress an estimate for the erection of a modern hospital for the army at Fort Leavenworth, Kan. The estimate calls for an appropriation of $11,000. . . The report of the special commission of the senate of New York, to investigate the question of the spread of consumption and the establishment of better sanitary conditions for consumptives, has been presented to the Legislature in session at Albany, and an accompanying bill provides for an appropriation of $200,000, recommending that the State establish a hospital or hospitals for the treatment of tuberculosis, same to be located somewhere in the forest reserves of the Adirondacks . . St. Mary's Hospital, Quincy, Ill., reports for the year 1898, 1070 patients treated, of which 54 died, 932 were discharged and 84 remained at the end of the year. . . Mercy Hospital, Burlington, Iowa, eleven deaths during the year 1898, and the total number of patients treated, 347; of these 29 remained in the hospital at the end of the year. . . St Joseph Hospital, Joliet, Ill., reports 751 patients treated during 1898, of which 525 were discharged cured, 92 improved, and 85 remained in the hospital at the end of the year, and 49 had died. . . A new general hospital has been opened at Green Bay, Wis. . . The St. Francis Hospital for Incurables, Cincinnati, reports 284 inmates Jan. 1, 1898, 529 admitted during 1898, while 395 left the hospital and 111 died, 307 being in the hospital Jan. 1, 1898. . . Alexian Brothers' Hospital, Chicago, has added a new department for treatment of disease by water electricity, massage and Swedish movements.

State Board of Medical Examiners.—At the recent meeting of this Board, Indianapolis, Ind., officers were elected as follows: President, W. A. Spurgeon of Muncie; vice-president, J. C. Webster of Lafayette; secretary, W. P. Curryer of Indianapolis; treasurer, James M. Dinnen of Ft. Wayne.

State Board of Health Examinations.—Dr. J. A. Egan, secretary of the Illinois State Board of Health, held the quarterly examination of candidates for practice of medicine, surgery and midwifery, in Chicago, January 10-14.

Pure Food Bill.—It is announced that Senator Dunlap of Champaign has just completed his work on the pure food bill and will introduce it in the Senate at Springfield, Ill., within a few days.

Kansas Medical Legislation.—A bill has just been introduced in the Kansas Legislature to regulate the practice of medicine and the sale of drugs, nostrums and medical preparations by itinerant venders.

Experimental Traumatism of Tendon Sheath.—E. Arcoleo concludes from tests with six rabbits and dogs that the sheath is necessary to the nutrition of the tendon, and the latter reacts with inflammatory lesions to traumatisms of the sheath, but that they are transient and are followed by *restitutio ad integrum*. The surgeon can therefore proceed with his operation on the sheath without compromising the vitality of the tendon. —*Gas. degli Osp.*, Dec. 18, 1898.

Absorption of Bacteria from Fresh Wounds.—J. Halban communicated to the German Congress of Surgery in 1897 the results of extensive experimentation, establishing the fact that the

bacteria are absorbed by the lymphatic system and that the blood plays a very subordinate part in their absorption. He invariably found the bacteria first in the lymph glands and in quite large numbers, whence they passed out into the blood. The interval before their appearance in the lymphatics varied very much with different bacteria (spores were not included in his tests). The anthrax bacteria remained localized at the spot, so that amputation of the limb, even after two and a half hours, saved the animal, while the control animal died in thirty six hours. He observes that bacteria can not be absorbed by an open artery on account of the outward current, and that the current is also outward from the peripheral end of a vein, while the central flow stops on account of loss of the *vis a tergo*, and only rarely do bacteria find their way upward in the central end. Further research has confirmed his assertions, which he now repeats with added emphasis in the *Vienna Klin. Woch.*, Dec. 22, 1898, adding that Albrecht and Ghon have recently experimentally established that infection of the blood with bubonic plague bacillus occurs absolutely and solely by way of the lymphatics.

Hygroma of the Subdeltoid Bursa.—Blauel reports a personal case and reports the fifteen on record of corpora oryzoidea hygroma of the subdeltoid bursa, and concludes that it is of tuberculous origin. He considers injections, incisions, etc., unreliable, and recommends prompt, total extirpation as the simplest and only certain cure—nine days in his case.—*Munich Med. Woch.*, from *Beiträge z. klin. Chir.*, xxii, 3.

Appendicitis vs. Epityphlitis.—Professor Küster writes to the *Cbl. f. Chir.*, December 17, to protest and reject with horror that "verbal monstrosity, appendicitis, half Latin and half Greek, which starting in America, is now invading and conquering the whole world." He suggests instead, epityphlitis as more appropriate in every sense.

The Cicatrix After Laparotomy.—The *Arch. f. Gyn.*, lvi, 3, contains a study by G. Abel, of the ultimate fate of the cicatrix in 665 laparotomies performed at Zweifel's clinic. He has traced all but three to date, and personally examined 586, or 97.5 per cent. This undertaking required 2390 letters and 201 journeys to examine cases residing at a distance. The most important result of his investigation is that subsequent hernia is best prevented by careful adaptation of anatomically related tissues, especially suture of the fasciæ, and by securing prima intentio with asepsis. If recovery ensues under these conditions, even leaving the bed early will not interfere with it, but if these conditions are not present, the wearing of a bandage will not positively prevent subsequent hernia. The *Munich Med. Woch.* comments that the present improved technic in laparotomy sutures is due in great measure to the works of Winter and Abel, particularly the latter's address at the German Congress of Gynecology in 1897, when he denounced the method then in vogue of suturing the entire abdominal wall at once.

Total or Partial Abdominal Hysterectomy.—F. Terrier confirms the "benignity of supravaginal abdominal hysterectomy, established by the American surgeons," and reports a mortality of only 10 per cent. in fifty operations of the kind, and a mortality of 24 per cent. in twenty-five total abdominal hysterectomies, 1896 to 1898.—*Revue de Chir.*, Dec. 10, 1898.

Intestinal Occlusion.—Notwithstanding the extreme weakness of the patient, Témoin performed laparotomy in the fifth month of pregnancy, and severed the bridles that had caused incarceration of the ileum. The fetus was expelled the same night; smooth recovery.—*Revue de Chir.*, Dec. 10, 1898.

Cystic Enlargement of Bladder end of Ureter.—J. Englisch reviews the fifteen cases in literature and adds another. Ten were females, mostly young; six were males, all older. The ureter was obliterated in six. A defect in the urethra was frequently present with open, double ureter; and harelip or fingers grown together were noted in the cases in which the single or double ureter was closed. The size varied from that of a walnut to a cyst containing 50 c.c. of fluid. The disturbances are evident in increased desire to urinate, with pain in the effort, retention, enuresis or transient incontinence. All cases suggesting a diverticulum or pyonephrosis should be investigated for a possible cyst formation in the ureter. The treatment must consist in incising, after endoscopy, or ligating after cystotomy.—*Cbl. f. Chir.*, Dec. 24, 1898.

Results of Female Castration.—A. Pfister reports a study of 116 women castrated: the menopause appeared in 94.8 per cent.; molimina menstrualia in 30 per cent.; sexual desires were extinguished in 43 to 52 per cent., diminished in 30 per cent., undiminished in 26 per cent. Atrophy of the uterus was constant, of the vagina and vulva less frequent. Atrophy of the mammary gland was noted in twenty-nine women. Tendency to obesity is increased. The disposition is frequently changed for the worse for quite a while after the operation, but only exceptionally permanently. The former disturbances were cured by the operation in eighty-seven cases, improved in eighteen and not affected in six. The best successes were obtained in myoma and dysmenorrhea. Hysteria and hystero-epilepsy were least benefited.—*Munich Med. Woch.*, from *Arch. f. Gyn.*, lvi, 3.

Death from Poison.—Is a death from poison accidentally taken under the mistaken belief that it is a harmless medicine a death from poison? This is the question which the United States circuit court of appeals had before it, in the recent case of McGlother vs. the Provident Mutual Accident Company of Philadelphia, where Dr. McGlother died a few months after taking out a policy of accident insurance, and an action was brought to recover thereon for his death, which was caused by his drinking poison under the mistaken belief that it was a harmless medicine, which he had prescribed as a drink for his patients. The policy excluded death from poisoning. Thus the question stated was raised. To ask the question, the court declares, seems to answer it. Its reasoning is: If death from poison unconsciously taken under the belief that it is not poison is not a death from poison, what is it a death from? The whole is greater than any of its parts and includes them all. Death from poison is greater than, and necessarily includes death from poison taken in any particular way, because it includes death from poison taken in every way. It includes death from poison taken intentionally or unintentionally, consciously or unconsciously, voluntarily or involuntarily, with or without knowledge that the draught is dangerous, because every species of death from poison is included within the generic term. In accordance with this, and much else it has to say upon the subject, the court holds that the death of the insured referred to fell within the exception expressed in the policy, and that the insurance company was not liable for it, under its contract.

Must Pay Taxes.—In the case of the Medical Society of Kings County against Neff, the second appellate division of the supreme court of New York holds that a medical society organized under the provisions of "An act to incorporate medical societies for the purpose of regulating the practice of physic and surgery in this State," is not exempt from taxation under a law providing that "the real property of a corporation or association organized exclusively for the moral and mental improvement of men and women or for religious, charitable, missionary, hospital, educational, patriotic, historic or cemetery purposes, or for two or more of such purposes, and used exclusively for carrying out thereupon one or more of such purposes shall be exempt from taxation." In its comments, the court says of the medical society in question that it is, in effect, a medical clubhouse, where the members of a single profession

meet for "mental improvement" and such incidental benefits as flow from association and co-operation of effort. One of the results of these medical societies has been to establish a practically uniform rate of charges, or at least a minimum rate, and to afford a degree of protection to individual practitioners which would be practically impossible without an organization empowered to enforce obedience to by-laws and respect for professional ethics. It is not necessary, continues the court, to ascribe selfish motives, and it is undoubtedly true that the society in question is performing many charitable and commendable acts, in common with mankind, in every walk of life; but this is not, of itself, a justification for the State to relieve it of the burdens which are common to good citizenship generally, and, accepting this society's own statement of the case, there are no facts to bring it within the provisions of the law quoted.

Function of Experts.—The ordinary function of experts, says the supreme court of Minnesota, in the case of Moratsky vs. Wirth, November, 1898, is to assist by their superior knowledge the jury in reaching a correct conclusion from the facts in testimony before them. Their opinions are not, as a rule, conclusive upon the jury, but mere items of evidence for the consideration of the jury. But in a case where the evidence, and the facts to be deduced therefrom, are undisputed, and the case concerns a matter of science or specialized art or other matter, of which a layman can have no knowledge, the jury must base their conclusion upon the testimony of the experts. In such a case the court concedes that it would be error for the trial judge to instruct the jury, in effect, that the weight to be attached to the expert testimony was a question for them, and that their conclusion as to any question of fact was to be based upon a consideration of the whole testimony, expert and non-expert, and that they were not to surrender their conclusion so formed because the opinion of the experts did not coincide with such conclusion; that to do otherwise, and accept the opinions of the experts as to what had been proven by the evidence, would make them, and not the jury, the triers of the cause. Such, however, was not this case, wherein both the expert and substantive evidence were conflicting, and the supreme court holds that it was not error to give here an instruction of that character.

Bacterial Etiology of Torticollis.—Heller of Berne has experimentally confirmed the theory accepted by Dieffenbach, Volkmann, and lately by Mikulicz, that a severe infective myositis is the base on which *caput obstipum* develops. Kader has also induced contraction and degeneracy in the muscles by injury and infection.—*N. Y. Med. Woch.*, December, 1898.

Aerobiosis of the Tetanus Bacillus.—Valagussa of Rome asserts that the comparative rarity of tetanus, in spite of the universal presence of the bacillus, is due to the fact that it is only toxic when developing anaërobically, and that when exposed to light and air it loses its toxicity, although continuing to develop aërobically, under the proper conditions. It is impossible to isolate it from the surface of the soil, as it is rapidly killed by the action of air, sunshine and heat. The transformation from anaërobic to aërobic conditions is easier accomplished than the reverse transformation, which requires an old aërobic culture that has developed a long while on its own products, also the action of common saprophytes, symbiosis with common saprogenic germs, a constantly favorable temperature, darkness and lack of air. Without these conditions the cultures are sterile. The aërobic germ regains its toxicity as it becomes anaërobic again, but the toxicity is transient. These researches explain the significance of passages through the intestines of animals in which all the required conditions typically occur, and also the fact that a harmless non-toxic bacillus entering the intestines emerges toxic and dangerous.—*Gaz. degli Osp. e delle Clin.*, Dec. 18, 1898.

Leucocytes in Experimental Pneumococcus Infection.—N. Coco inoculated animals with attenuated cultures of the pneumococcus and found that this produced a hyperleucocytosis with a majority of large mononuclear leucocytes without granulations, a moderate number of polynucleated leucocytes and a small number of lymphocytes. Then succeeded a period of leucocytolysis and consequent hypoleucocytosis. He confirms the statements of others that there is a proportion between the increase in the acidity of the urine and the increased number of leucocytes and their destruction, as the acids of the urine are derived in a large measure from the nuclein, and this comes from the leucocytes. Virulent cultures inoculated failed to produce any marked hyperleucocytosis. The number and virulence of the pneumococci in the blood are always in inverse proportion to the number and the changes in the leucocytes: the weaker the cultures and the more resistant the animals, the more important is the production of leucocytes and their destruction in the blood. He concludes that this establishes the fact that the nucleins liberated by the destruction of the leucocytes, possess bactericidal properties. In cases of marked leucocytosis he observed an abundant production of cells in the marrow with all the characteristics of large mononuclear leucocytes of the blood.—*Presse Méd.*, from *Cbl. f. Bact.*, Oct. 12, 1898.

Illustrations Provided For.—Chapter 34, as it is called, of the Resolves of Massachusetts of 1898 authorizes the State Board of Health to expend out of the appropriation for the Board a sum not exceeding $950 for the purpose of reproducing microscopic illustrations of the disease known as epidemic cerebro-spinal meningitis.

Bacteria in the Salivary Glands.—Calvello finds, after much experimentation, that pathogenic and nonpathogenic bacteria pass into the salivary glands, but are never eliminated by them, and hence that they must be destroyed by the epithelium of the gland.—*Gaz. degli Osp.*, 1898, 121.

Melanosis Lenticularis Progressiva.—Rotch (*Archives of Pediatrics*, November, 1898) reports two cases of this condition, in sisters, aged 6 and 7 years, and of healthy parentage. The disease is present on the face, neck, extensor surfaces of the arms and legs, in the clavicular region and above the spines of the scapulæ.

Large Calculus per Urethram.—Possibly the largest oxalate stone on record extracted per urethram without injury (female) is illustrated in the *Munich Med. Woch.* of Dec. 20, 1898. It had grown on a "lyra climax" pencil eleven centimeters in length, and was five and a half long by nine in circumference; total weight over forty grams (Windelschmidt).

Varices of the Stomach.—Two cases are described by M. Letulle in the *Presse Méd.* of Nov. 26, 1898, in which the necropsy after fatal hemorrhage from the stomach disclosed the presence of a ruptured varicose tumor. He adds that these lesions must be frequent and overlooked at the necropsy, as they are almost impossible to distinguish until the stomach wall has been immersed several hours in plenty of Müller's fluid. It is difficult to differentiate them during life; they are evidently absolutely incurable.

Society for Prevention of Tuberculosis.—The committee recently appointed by the Chicago Medical Society to make arrangements for the formation of a society for the prevention of tuberculosis, in Chicago, held a recent meeting and appointed a sub committee consisting of Drs. F. T. Riley, Frank Billings, F. S. Johnson, F. Henrotin, Jno. A. Robison and N. S. Davis, Jr., to prepare a report on the plan, scope, method and object of the society.

Pyrogenic Action of Fowl Serum.—Behring announced at Madrid that the manifest pyrogenic action on tuberculous patients of serum obtained from a mammal is absent from serum

from birds. Maragliano has been testing the truth of this assertion with domestic fowls, hens, chickens, ducks, pigeons, geese, and finds that their serum has the same pyrogenic effect as that from the mammal, rousing latent fever, although varying much with individual cases. This fever can not be imputed to the serum per se, as even the injection of an indifferent fluid, like Hayem's artificial serum, excites fever.—*Gaz. degli Osp. e delle Clin.*, Dec. 18, 1888.

The Renewal of Youth.—To drink of the waters of the fountain of youth is still, in the opinion of some, within range of possibility. A recent writer observes that man began in a gelatinous condition and ends in an osseous or bony one. He is soft in infancy; he is hard in old age. Aging is a process of ossification. After middle life has passed, a more marked development of the ossific character takes place. The arteries become thickened with calcareous matter, and there is interference with circulation, upon which nutrition depends. The whole change from youth to age is one of steady accumulation of calcareous deposits in the system. Entire blockage of the functions of the body is a mere matter of time, and the refuse matter deposited by the blood through the system stops the delicate machinery we call life. The blood contains compounds of lime, magnesia and iron. In the blood itself are these earthy salts. In early life they are thrown off; in age they are not. Almost everything we eat contains these elements for destroying life. Earthy salts abound in the cereals, and bread itself, mistakenly called "the staff of life," is one of the most calcareous of edibles. Nitrogenous food also contains these elements, hence a diet made up of fruit is the best for people advanced in years. The daily use of distilled water is, after middle life, one of the most important means of preventing secretions and derangements of health. Diluted phosphoric acid is one of the most powerful influences known to science for shielding the human system from the inconveniences of old age. Use it daily with distilled water, and so retard the approach of senility. To retain perpetual youth avoid all foods rich in the earth's salts, use much fruit, especially juicy, uncooked apples, and take daily two or three tumblerfuls of distilled water with or without fifteen drops of diluted phosphoric acid in each glassful. Thus will our days be longer in the land.—*Medical Age*, Nov. 25, 1898.

Syphilitic Origin of Tabes.—In an investigation of 814 patients, including 214 with tabes—Berlin—syphilitic antecedents were noted five times more frequently among the latter, which confirms the Fournier-Erb theory in regard to the significance of syphilis in the etiology of tabes. Leyden and his school take the opposite view, citing the frequency of syphilis among the Bosnians, Kirgizh, and the natives of east and southeast Africa, where syphilis forms 50 per cent. of all the sickness, and yet tabes is unknown. Grimm also found only five cases of tabes in 60,000 patients at Yeddo, although syphilis forms 10 per cent. of all the sickness there.—*Derm. Ztft.*, November, 1898.

Dermothermostat.—Saalfeld claims to have much improved the original American apparatus for applying heat and moisture to the face. A higher temperature is attained, and extremely favorable results have been secured in acne, seborrhea, eczema of the scalp, etc. Massage following the steaming is much more effective. The patient holds his face inside the open end of a large funnel with double walls, the space filled with water kept at a temperature of 55 degrees C., by a spirit lamp beneath. A layer of asbestos helps to retain the heat. The medicinal solutions are vaporized and the face sprayed through the small end of the funnel. This treatment is repeated every day or week, and for five to fifteen minutes as indicated.—*Derm. Ztft., November.*

Massage of the Prostate.—E. Sonnenberg uses an instrument that resembles a long glove finger, fitting over the forefinger and extending down over the front and back of the knuckle, made of German silver. The length of the cylinder is 11 cm., diameter 6.5 cm., entire length 17 cm. The gland can be very effectively massaged through the rectum with the broad rounded tip of this appliance, which reaches farther than the finger, and can be worked in nearly every direction.—*Derm. Cbl.*, December; illustrated.

Smallpox Quarantine Raised.—Dr. J. A. Egan, secretary of the State Board of Health, has raised the quarantine against the town of Biggsville, Ill., where there have been nine cases of smallpox.

Chill Penury and a High Death-Rate.—If we may pharaphrase the lines of Gray, we might say of the unfortunates, who are referred to below, that "chill penury had marked them for her own." Every one has heard of Blackest Birmingham, with its Parish of St. Laurence, one of the blots on our boasted civilization. One of the local papers speaks of the poverty of it as "not only probably the poorest parish in Birmingham, but one of the poorest in England. The poverty of the poor is appalling. Between 7000 and 8000 struggle for existence; some as button stitchers, paper box makers, hook and eye stitchers, salt sellers, waste paper gatherers, stove grate paper makers, etc. The death rate is twice as high as in some parts of this city, and in some streets it is 40 per 1000. As to the court life, the majority of the population live in overcrowded courts. In St. Laurence the real horrors of court life reach their zenith, and the cup of misery is full." The vicar of the parish is endeavoring to form, in the midst of this misery, a nurses' home. Two nurses have already been engaged, and the work is so eminently necessary that the vicar thinks that, when it is known, funds for their maintenance will be forthcoming.—*Sanitary Record*, Dec. 9, 1898.

Cerebrospinal Meningitis Among Troops.—An outbreak of cerebrospinal meningitis has been reported as having occurred during the first week of December, 1898, on board the United States transport *Manitoba* while en route with troops from Savannah, Ga., to Casilda, Cuba. The men affected belonged to the Fourth Tennessee Infantry and were quartered on the orlop deck forward. A private of Company H came on board at Savannah feeling not very well on the morning of December 1. He reported sick on the evening of the following day and was moved into an extemporized hospital on the hurricane deck. On Monday, December 5, the case was recognized as undoubtedly cerebrospinal meningitis. The man became unconscious on Tuesday, pupils contracted and left side paralyzed. He died on Wednesday, the 7th. The second case occurred on the morning of Saturday, December 3, in the person of a corporal of Company G. He was taken sick, apparently with seasickness, while on guard and was moved into the hospital. In the evening he became unconscious and remained so until the end. About midnight, December, 5, both lungs were found to be consolidating. He died about noon of the next day. A private of Company E was the next victim. He was admitted into the hospital on the morning of Sunday, December 4, complaining of pains all over the body. On Monday night he became unconscious. He could be aroused at times but immediately relapsed into an unconscious state. He died on the morning of December 9. The last case reported was a private of Company L, who was admitted on the evening of Monday, December 5. He was conscious until noon of December 7, but from then up to the next afternoon he had periods of unconsciousness, from which he could be aroused. During the night of December 8 he passed into a state of deep coma. His lungs became congested and he died the following morning. None of these cases developed a high temperature. In all a low pulse-rate was noted. No autopsy was held for want of proper facilities. The medical officers on board were convened on December 9, to consider the outbreak and deter-

mine its cause. They were Chief Surgeon John C. Martin, Brigade Surgeon Lewis Balch, Capt. V. K. Earthman, asst.-surgeon Fourth Tennessee, and Acting Asst.-Surgeons W. P. Lawrence and H. A. Hayes. The ship had made six voyages with troops from Newport News, Va., to Porto Rico, and thence again to New York; from Savannah, Ga., to Neuvitas, Cuba, and again from Savannah to Casilda, Cuba. In addition to these trips she moved troops from Montauk Point, L. I., to New London and Weehauken, carrying the Third United States Cavalry and the Twenty-fourth United States Infantry. The cavalry regiment was on board two days and the infantry regiment three days. After each voyage the ship was thoroughly washed down and then whitewashed; but she was not fumigated. She was inspected at Savannah before the embarkation of the Fourth Tennessee and was found to be in as clean a condition as could be expected for a ship coaling at the time. Prior to her use as a transport the ship was a cattle-ship. She carried a crew of 116 men, most of whom occupied quarters much more restricted than those of the troops, and none of the crew suffered. The board of medical officers recommended: 1, that the men be taken off the ship (which was then lying off Casilda, Cuba) and quartered on shore; 2, that the ship be thoroughly scraped and cleaned in the quarters occupied by the troops; 3, that after cleaning by scraping and washing, disinfection be practiced with the bichlorid of mercury, if possible to obtain it, and failing that with the chlorid of lime; 4, that before the ship be used again for the carrying of troops, proper changes be made in her and thorough disinfection be done by fumigating and disinfectant washing.

Gleanings.—Coincidence of tabes, Basedow's disease and epilepsy in case observed by Ingelrath (*Echo Méd du Nord*, Nov. 27, 1898) . . . Two severe cases of metritic iritis appearing with an endometritis and subsiding as the former yielded to local treatment (*Progrès Méd.*, No. 47) . . . Dr. Voges, assistant at the Berlin Institute for Infective diseases has been invited to take charge of the government bacteriologic institute at Buenos Ayres . . . Syphilitic foundation noted in case of "black hair tongue," observed by Vollmer; also noted in others of the five cases on record (*Deutsche Med. Woch.*, December 15) . . . Fresh syphilitic infection on top of secondary lesions, reported by Casalmi, similar to De Amicis' case (*Riforma Méd.*, No. 196) . . . A severe case of exanthema in his child and a tedious nephritis in an older member of the family, have induced Baginsky to advise "waiting with the syringe in your hand until some manifestations of diphtheria are evident before making a preventive injection" (*Arch. f. Kinderh.* xxiv) . . . Bayet considers elephantiasis due to an infection of the lymph-glands, consecutive to syphilitic, tuberculous, leprous or other severe infection. The lymph glands then secrete a "more plastic" fluid than usual (*Deutsche Med. Woch.*, December 15) The *Rheumatics' Review* is the suggestive title of a new Paris periodical . . . Fulminating gangrene of penis and scrotum in young man, without known cause, probably bacterial infection; spontaneous recovery in a couple of weeks; scrotum restored by flap from adjoining region and the entire penis covered with skin taken from the abdomen (*Munich Med. Woch.*, December 13) . . . Bright's disease sometimes commences insidiously with merely cephalalgia, nausea and vomiting, as Mathieu had occasion to observe in a recent instance, the patient dying in coma (*Echo Méd. du Nord.*, Nov. 20, 1898) . . . Absolute permanent baldness following the administration of a quarter of a gram of thallium reported by Jeanselme . . . Naphthalin salve found effective in acute and chronic eczema, painting the surface with olive oil five minutes before (Achvlediani: *Semaine Méd.*, Nov. 23, 1898) . . . In migrain due to hypertrophied rhinitis, instil a few drops of a 3 to 5 per cent. solution of cocain and give a saline purgative . . . Marked improvement in Bright's disease observed after the administration of a tablespoon every two hours of a solution of 4 to 8 grams Iceland moss in 180 grams water, associated with milk diet . . . De Cyon reports a child with acromegalia remarkably improved with hypophysin . . . Possibility suggested that cerebrospinal meningitis may have been confounded with tetanus in cases of the latter disease reported cured . . . The existence of fever is a formal counter-indication to symphysiotomy (Varnier: *Revista de Anat.*, Oct. 1, 1898) . . . Death of infant reported from intoxication with phenic acid and glycerin applied to the umbilic wound (*Gaz. degli Osp.*, Nov. 22, 1898) . . . "A 'Basedowian' from childhood is affected after 50 years of age with tabes and epilepsy, possibly of syphilitic origin." He queries: "Is the bulbar lesion, the origin of the affection, the result of the tabetic phenomena?" and quotes Marie: "An alteration of the great sympathetic, in the course of tabes, would explain a number of the symptoms of that affection, the gastric disturbances, exophthalmic goiter, etc." (*Echo Méd. du Nord*, Nov. 27, 1898). . . . Dr. Mounier relates in *France Noire* that the natives of the French Soudan take rectal injectious daily, the syringe a calabash with a pointed tip. The subject lies on his belly across the lap of a friend, who inserts the tip and blows into a small hole on top. The friend then takes his turn across the other's lap . . . Ruggi of Bologna has only had five deaths in 343 vaginal hysterectomies for all kinds of severe affections. . . . C. E Todd reports five cases of epilepsy in which the seizures subsided upon the administration of sixty centigrams of borax four times a day. One patient has had no recurrence for over a year (*Austral. Med. Gaz.*, July 20, 1898) . . . Morelli reports a stone the size and shape of a raspberry, expelled from the bronchi after long dry catarrh (*Rev. Heb. de Laryng.*, Dec. 1, 1898) . . . Ether spray found effective in neuralgia and headache (*Therap. Monats.*, 1998, 10) . . . Tattooing forbidden in the name of health and morality in the French Marquesas Islands in the Southern Pacific, under penalty of fine and imprisonment (*Presse Méd.*) . . . Cramps in the calf noted as premonitory symptom of pneumonia in a couple of recurring cases (*Rev. Méd.*, December 21) . . . Alsberg reports a couple of oxalate stones in the kidney distinctly visible with the Roentgen ray and easily extracted, although the diagnosis had previously been very uncertain . . . Aly found a hair from the moustache and Köster a tooth-brush bristle in recent cases of appendicitis (*Munich Med. Woch.*, Dec. 20, 1898) . . . The Shah of Persia has conferred the Order of the Sun and Lion, the highest honor in the land, upon his physician, Dr. Holmes, an American established in Persia since 1874 (*Presse Med.*, Dec. 21, 1898) . . . The St. Petersburg Academy of Military Medicine and Surgery has recently celebrated the centennial of its foundation. The University of Berlin was represented by Professors Bergmann, Waldeyer and Dr. Grassnich . . . Jamin reports a case of severe (bac.-confirmed) tuberculosis of the bladder entirely cured five years ago with intravesical injections of 5 per cent. iodoformed oil of vaselin; sixty-two injections in the first four and a half months, and about twenty during the following year (*Jour. de Méd. de Paris*, Dec. 18, 1898).

St. Joseph, Mo.

DIPHTHERIA.—The termination of the epidemic of diphtheria which has raged here for two months, is attributed to the closing of schools, the general use of antitoxin, house fumigation by formaldehyde and disinfection of the entire sewer system by burning sulphur.

SMALLPOX.—City Physician J. R. Graham, reports twenty-eight cases of smallpox during the past two months. It was brought here by a traveler from the South. The cases were confined to the poor classes. An epidemic was prevented by prompt and energetic quarantine of each household, guarded by policemen.

HEALTH ORDINANCE.—An ordinance was passed by the city council last week against spitting in cars and public convey-

ances. This step in the right direction is commended by the local profession. Such reforms are much needed here, since the present municipal administration has abandoned both the chemic and bacteriologic city department.

TRAUMATIC TUBERCULOSIS. — Two deaths from traumatic tuberculosis were reported recently. One was a wood-worker, in whom it was excited by the constant use of brace and bit. Tubercular foci were first observed at the base of each lung at the site of the pressure exerted by the brace. The disease became general in two months, and in three terminated fatally. The other case was that of a young woman, whose illness developed as an acute tuberculosis within a few days after having a tooth filled. After four months of rapid emaciation and constant expectoration, she coughed up a fragment of toothpick one-fourth inch long, twisted about the end of which was a mass of absorbent cotton. Death followed in two weeks.

Louisville.

MEDICAL COLLEGES.—The annual openings of the spring and summer medical colleges took place January 2 and 3. The inauguration of the four years' course has cut down the large number of students who usually attend the opening of the several colleges, but the attendance is very satisfactory. Kentucky University, medical department, began January 2, in the building formerly occupied by the Louisville College of Pharmacy, corner of First and Chestnut Streets. Owing to their resignations from the Kentucky School of Medicine faculty the following gentlemen have just been elected to fill the same chairs formerly occupied by them in that school in the medical department of Kentucky University: Drs. J. B. Marvin, professor of the principles and practice of medicine and clinical medicine; C. W. Kelly, professor of anatomy; J. M. Holloway, professor of surgery and clinical surgery; S. E. Woody, professor of chemistry and diseases of children. Dr. Henry E. Tuley, who was announced as professor of medicine in the first college catalogue, will teach obstetrics and diseases of children. Dr. J. B. Marvin has been elected president of the faculty. The Hospital College of Medicine began its session January 2, its medical and dental departments, with a very satisfactory attendance. Dr. L. S. McMurtry was elected president of this faculty, vice Dr. J. B. Larrabee, deceased; and Dr. J. M. Mathews, president of the AMERICAN MEDICAL ASSOCIATION, has been elected professor of surgery and clinical surgery, and lecturer on diseases of the rectum, Dr. Mathews formerly held the same position in the Kentucky School of Medicine. Dr. Philip F. Barbour is now professor of diseases of children in this college, the chair formerly occupied by Dr. Larrabee. Kentucky School of Medicine, which has been torn by dissensions in its faculty and board of regents, opened on the 3d inst. This was made possible by Drs. Marvin, Kelly, Woody and Holloway, the majority of the faculty, selling their interest in the building of the School and in the College charter to the three remaining members of the faculty, Drs. Wathen, Coomes and Orendorff. This College is running as the Kentucky School of Medicine, but with an entirely new faculty, with the exception of the three just mentioned.

Philadelphia.

DR. JOSEPH PRICE TUNIS' condition is such as to give considerable anxiety to his many friends.

HENRY NORRIS has returned from a vacation spent in Virginia, and will be at 230 South Twenty-second Street during the winter.

DR. ERNEST LAPLACE, who makes an annual trip to New Orleans during the holidays, will return for duty within a few days.

DR. WALTER L. PYLER, who has for several years occupied offices in the Professional Building on Chestnut St., has removed to 1806 Chestnut.

DR. EDWARD RANDALL, formerly of 1806 Chestnut St., has removed to his new location on Walnut Street.

DR. JUDSON DALAND'S new home will soon be completed.

DR. JOHN ASHHURST'S condition has considerably improved, but he is still unable to resume his duties at the University.

APPOINTMENT.—The Board of Charities and Corrections have appointed F. S. Bowman outdoor physician for the second ward, instead of Dr. John D. Ward (homeopath), resigned.

SUCCESSOR TO DR. PEPPER.—Senator George F. Edwards is prominently spoken of as the probable successor of Dr. Pepper as president of the Philadelphia Commercial Museums.

FURTHER REPORT OF SOLDIERS TREATED.—Major D. C. Peyton, who has been acting in the capacity of supervisor for the Government of all the soldiers treated at the different hospitals of the city, has completed his report and has tendered it to the proper authorities in Washington. Of the total number of cases treated in the different hospitals, 65 per cent. were typhoid fever and 20 per cent. malarial fever. The death-rate in all cases was about 3 per cent. It has been estimated that the amount of money which will be disbursed among the different hospitals will be about $150,000.

CHANGE IN STAFF.—At the last stated meeting of the staff of St. Mary's Hospital, the following were elected for 1899: President, John J. Maylan; vice-president, Louis F. Love; secretary, J. M. Shellissey.

NEW HOSPITAL FOR CHILDREN.—Dr. Charles E. Myers of Manayunk, one of the northern districts of this city, has now a plan on foot which, if accomplished, will be instrumental in erecting a hospital for children in that section of Philadelphia.

NEW HOSPITAL FOR JEFFERSON.—The trustees of the Jefferson Medical College announce that within a short time they propose erecting a new, enlarged and well-equipped hospital.

CHARITY CASES IN CITY HOSPITAL.—According to the report of the Bureau of Charities and Correction, there are at present in the Philadelphia (Blockley) Hospital a total of 4068 cases, the exact number in the institution at this time last year. Of this number, there were 1105 in the general hospital, 1374 in the insane department, 1377 in the out patient department, and 212 children being cared for.

ENDOWMENT FOR A HOSPITAL.—Miss Jennie Schofield and Mrs. John Dearnley have notified the officers of St. Timothy's Hospital that they have agreed to endow that institution with a contribution of $5000 for a free bed in memory of their father. A memorial tablet will be placed in the hospital bearing the names of the donors.

ANNEX TO EPISCOPAL HOSPITAL.—Through an anonymous bequest of $100,000 recently made, this institution will now be able to erect a handsome annex to be used as a nurses' home for the accommodation of 78 persons. This building will be separate from the hospital proper, but will be connected by means of subterranean passages.

GIFT TO GERMAN HOSPITAL.—Mrs. Schemm, widow of Peter E. Schemm, has been furnished by the officers of the German Hospital a certificate of the endowment of a free bed in that institution, in honor of her husband.

CHANGES AT PHILADELPHIA POLYCLINIC.—The former faculty of the polyclinic having decided not to stand for re-election, the Board of Trustees will hereafter transfer all these duties to the lay members and devote their entire time to the duties imposed upon them in connection with the teaching faculty and management of the cases admitted. The following lay members have been unanimously elected: William E. Donovan, Hon. William N. Ashman, Henry K. Boyer, Franklin B. Kirkbride, J. E. Sterrett, George T. Lippincott, Nathaniel B. Grenshaw, William F. Read, C. S. W. Packard, Harry B. French, Nelson Z. Graves, John Scott, Jr., and Cheesman A. Herrick. During the year just closed 749 cases have been admitted to the hospital. Of these 354 were charity cases, while 395 were pay cases. In the dispensary there were 19,799 new cases and 68,586 visits, a total of 88,385. There were held during the year 195 clinics each week, in which 140 professors and adjunct professors and assistants aided; 126 students from different States were matriculated during the year.

REPORT OF CHILDREN'S HOSPITAL.—According to the last report of the above-named hospital, it has been found that there has been a steady increase in the number of cases treated during the past year, the total being 1026, against 904 for the year 1887. The number of cases treated in the different dis-

pensaries was 16,501. Owing to lack of more convenient accommodation, the Board of Managers will only permit 70 cases to remain in the hospital at one time. Managers elected for the ensuing year were as follows: Richard Wood, Edward S. Sayres, T. H. Bache, Bobert M. Lewis, Francis W. Lewis and E. Hutchinson. The officers elected for the year were: F. W. Lewis, president; Charles Platt, vice-president; Charles W. Cashman, treasurer; E. Hutchinson, secretary.

SMALLPOX, TYPHUS FEVER, LEPROSY.—Medical Inspector Taylor has reported a case of smallpox, a little girl living on Amity Street below Thirtieth. . . . The patient recently taken to the Municipal Hospital with a diagnosis of typhus fever was kept under observation for several days and was finally found to be typhoid. . . . The two cases of leprosy now at the Municipal Hospital will be kept under close observation for some time to come.

FIGHTING TUBERCULOSIS. — An application has been filed with the State Board of Charities, by the Society for the Prevention of Tuberculosis, for the erection of a hospital for the treatment of consumption. In order to make the plan successful, a bill will be introduced into the State Legislature asking for an appropriation of $150,000. The Board of Charities favorably reported a similar bill at the last legislature, but the appropriation was never made. In this city it is proposed to erect a special hospital for the treatment of these cases, and an impetus has been given the movement by members of the Philopatrian Institute, who propose devoting for this purpose the proceeds arising from the Philopatrian ball to be given soon.

NATIONAL RELIEF COMMISSION.—The commission has assisted a total of 500 families, representing 2000 individuals. The Relief Commission asks that the Council make a present of $50 or $75 to each soldier's family in which death occurred. The Ways and Means Committee report that the $15,000 placed in their hands has been expended as follows: Aid of the destitute $5,213.58; burials $1,436.86; hospital trains $7,817.87. Of the total amount of money expended, all but $2000 has been contributed by the residents of this city.

MORTALITY STATISTICS.—The total number of deaths reported to the Bureau of Health for the week just closed was 642, a decrease of 71 over last week, and an increase of 153 over the corresponding period of last year. Of this number 185 were children under the age of 5 years.

IN HONOR OF NATIONAL RELIEF COMMISSION.—A resolution of thanks having been adopted in Congress in favor of the Red Cross Society, it is stated that Senator Penrose of this city will introduce a similar resolution in behalf of the National Relief Commission, which has for the most part been an organization supported by Philadelphia people.

MEDICO-CHIRURGICAL COLLEGE.—The trustees of the above-named institution have created a chair of military and naval surgery, and tendered this honor to Major D. C. Peyton.

DR. PEARSON TO BE COMMENDED.—Dr. Leonard Pearson, who has done so much for the eradication of tuberculosis among cattle throughout the State, is to be highly commended to Governor-elect Stone for the valuable services he has rendered the State at large. The State Live Stock and Sanitary Board has most heartily approved his contribution to medical science, and will commend him for reappointment to the position which he now so satisfactorily occupies.

THE PUBLIC SERVICE.

Movements of Army Medical Officers by Adjutant-General's office orders to Jan. 12, 1899.

To Cuba: Acting Asst.-Surgeon Baen Street to report to the commanding officer 7th U. S. Cavalry, to accompany the first detachment of that regimeut.

To San Juan, P. R., the following lieutenants, asst.-surgeons U.S.A.: Walter Cox from Washington, D. C., Frederick F. Russell from Brooklyn, N. Y., and Williard F. Truby from Otto, Cattaraugus Co., N. Y.

To Manila, P. I.: To report to the commanding officer 3d U.S. Infantry, to accompany the regiment, Lieut. Richard B. Westnedge from duty at the Josiah Simpson Hospital, Va., and Acting Asst.-Surgeon Arthur B. Smith from duty at Ft. Snelling, Minn. To report to the commanding officer 4th U.S. Infantry, to accompany the regiment, Acting Asst.-Surgeons Percy M. Ashburn from Ft. Thomas, Ky., and Alexander C. Ghiselin from Ft. Myer, Va.

To duty at posts: To Ft. Reno, Okla., Acting Asst.-Surgeon Samuel T. Weirick from Kansas City, Mo.

To transports: To the *Massachusetts* at Brooklyn, N. Y., Acting Asst.-Surgeon James H. Halloway.

To general hospitals: To Ft. McPherson, Ga., Acting Asst.-Surgeon John C. Haskell from duty at Ft. Bliss, Texas.

Leave of absence granted or extended: Capt. Henry A. Shaw, asst.-surgeon U.S.A., and Capt. G. I. Cullen, asst.-surgeon 1st Ohio Infantry, to enable him to complete the settlement of his accountability for public property.

Sick leave granted or extended: Lieut. Leigh A. Fuller, asst.-surgeon U.S.A.

Resignation accepted: Major O. P. Barber, surgeon 35th Michigan Infantry.

Marine-Hospital Changes.—Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the U.S. Marine-Hospital Service, for the seven days ended Jan. 12, 1899.

Surgeon C. E. Banks: Detailed to attend meetings of the National Pure Food and Drug Congress at Washington, D. C., Jan. 18 to 21, 1899.

P. A. Surgeon J. J. Kinyoun: Detailed to attend meetings of the National Pure Food and Drug Congress at Washington, D. C., Jan. 18 to 21, 1899.

P. A. Surgeon W. G. Stimpson: Granted leave of absence for two days, Jan. 12, 1899.

Asst.-Surgeon A. R. Thomas: Upon being relieved from duty on U.S. transport *Obdam*, to proceed to Stapleton, Staten Island, N. Y., for duty and assignment to quarters, Jan. 6, 1899.

Asst.-Surgeon J. B. Greene: Detached from duty on U.S. revenue str. *McCulloch*, and directed to report to medical officer in command, San Francisco quarantine, Angel Island, Cal., for temporary duty, Jan. 12, 1899.

Asst.-Surgeon S. B. Grubbs: To report at Washington, D. C., for special temporary duty, Jan. 12, 1899.

J. C. Rodman, sanitary inspector: Granted leave of absence for twelve days from Jan. 12, 1899.

E. S. McGuire, hospital steward: Granted leave of absence for thirty days from Feb. 4, 1899.

F. S. Goodman, hospital steward: Relieved from duty at the Cape Charles quarantine station and directed to proceed to Philadelphia, Pa., and report to Surgeon H. W. Austin for duty and assignment to quarters on the barge *Protector*, en route to Havana, Cuba, Jan. 6, 1899.

C. G. Carlton, hospital steward: To proceed to Chicago, Ill., and report to the medical officer in command of the Service, for duty and assignment to quarters, Jan. 6, 1899.

Frank A. Southard, hospital steward: To proceed to Stapleton, Staten Island, N. Y., and report to the medical officer in command of the Service for duty and assignment to quarters, Jan. 7, 1899.

John Purifay, Jr., hospital steward: To proceed to New Orleans, La., and report to the medical officer in command of the Service, for duty and assignment to quarters, Jan. 7, 1899.

CHANGE OF ADDRESS.

Berry, J. A., from Chicago, Ill., to 631 Kansas Ave., Topeka, Kan.
Clark, I. S., from Dexter, Mo., to Tyler, Wash.
Griswold, B. W., from 73 Adams Ave. E. to Harper Hospital, Detroit, Mich.
Griggs, A. T., from Prudential Bldg. to W. Baker and Williams St. Atlanta, Ga.
Huff, S. M., from Lamar to Milesburg, Pa.
Keath, J. W., from 2405 Columbia Ave. to 3100 N. 16th St., Philadelphia.
Martin, W. F., from 21 E. Platte to 801 N. Nevada Ave., Colorado Springs, Colo.
Miller, J. W., from 2 Central Ave. to Armour Sta., Kansas City, Mo.
Miles, W., from Littleton to Chandlerville, Ill.
Mercer, W. H., from St. Louis to Raymond, Ill.
Noyes, W. B., from 164 W. 73d to 28 W. 61st St., New York City.
Paquin, Paul, from St. Louis, Mo., to Asheville, N. C.
Palmer, G. T., from Poplar Grove to 31st St. and Indiana Ave., Chicago.
Pardee, G. C., from 526 N. Montgomery St. to Chronicle Bldg., San Francisco, Cal.
Wesley, C., from Science Hill to Ansel, Ky.

LETTERS RECEIVED.

Ambler, C. P., Asheville, N. C.
Bundy Lamp Co., Frank E., Elmira, N. Y.; Brewster, Q. E., Boston, Mass.; Brown, Mark A., Cincinnati, Ohio; Buck, E. R., Hudson, S. D.; Bell, J. M., St. Joseph, Mo.; Bevan, A. D., Chicago, Ill.
Church, E. O., Chicago, Ill.; Chicago Medical Book Co., Chicago, Ill.; Chivers, H. C., St. Louis, Mo.; Chance, H. C., Tazewell, Tenn.; Curl, J. L., Osa, Mo.; Cordier, A. H., Kansas City, Mo.; Cornell, C. W., Knoxville, Iowa; Clark, L. P., Sonyea, N. Y.; College of Physicians and Surgeons, Chicago, Ill.; Conly, J. B., Woodward, Iowa; Cambridge, P. H. M., Highland, Ill.; Candell, L. B., Barnett's Creek, Ky.; Channing, W., Brookline, Mass.; Curtis, A. B., Perry, Mich.
Dolime, Chas. E., Baltimore, Md.
Electro Medical Mfg. Co., Chicago, Ill.
Felmlee, T. T., Chicago, Ill.; Fisher, A. F., South Lake Linden, Mich.
Gamble Shoulder Brace Co., Chicago, Ill.; Gifford, H., Omaha, Neb.; Goldstein, M. A., St. Louis, Mo.; Grimes, J. F., Blue Hill, Neb.; Griffin, J. F., Tiptonville, Tenn.; Grube, W. W., Toledo, Ohio.
Holmes, Bayard, Chicago, Ill.; Hinchman, J. V., Hebron, Neb.; Hawley, Geo. F., Chicago, Ill.; Hummel, A. L., Adv. Agency, New York City, (2).
Jelks, J. T., Hot Springs, Ark.; Jenkins, M. B., Knoxville, Tenn.; Johnston, Jr., T. V., New York City; Jones, L. A., Williamstown, Mass.
Kreissl, F., Chicago, Ill.
Loyer, A. E., New Washington, Ohio; Lindley, J. S., San Carlos, Ariz.; Lehn & Fink, New York City; Layne, E. R., Windsor, Cal.; Louis, Dr., Aniwa, Wis.
Mulford Co., H. K., Philadelphia, Pa.; Mereness & McGovern, Milwaukee, Wis.; Messenger, W. E., Prescott, Iowa; Merrill Chemical Co., The Wm. S., Cincinnati, Ohio, (2); Mead, L. C., Yankton, S. D.; Merchants' Publishing Co., Chicago, Ill.; Martindale, J. H., Minneapolis, Minn.; Macneady, J. H., Huntsville, Ala.; Meyen, C. & Co., New York City; McSherry, J. W., Martinsburg, W. Va.
Noble, H. B., Howard, S. D.; Nowland, G. B., N. Cambridge, Mass.; Newman, R. A., Detroit, Mich.
Osborn, J. W., Dyersville, Iowa.
Publishers' Collection Agency, Chicago, Ill.; Putnam's Sons, G. P., New York City; Parmele Co., Chas. Roome, New York City; Purdue, R. W., Prophetstown, Ill.; Perry, T. P., U.S. Marine-Hosp., San Francisco, Cal.
Resinol Chemical Co., Baltimore, Md.; Raylor, F., Dayton, Ohio.
Stubbert, Dr. J. E., Liberty, N. Y.; Simpson, D. G., Warren, Ohio; Squier, A. D., Springfield, Mass.; Schering & Glatz, New York City, (2); Smith, Kline & French Co., Philadelphia, Pa.; Store, H. R., Newport, R. I.; Smart, W. W., Muskegon, Mich.; Swartz, R., Mfg. Co., Pine Bluff, Ark.
Trochet, G. B., Detroit, Mich.; Tucker, J. C., Chicago, Ill.; Turner, R. L., Meridian, Miss.; Thorington, J., Philadelphia, Pa.; Theil, A. K., Marquette, Mich.
Wilson, J. S., Johnson, Neb.; Wells, E. F., Chicago, Ill.; Wessinger, J. A., Ann Arbor, Mich.; Williams, H., Passaic, N. J.; Woldert, A., Philadelphia, Pa.; Widmer, W. A., Philadelphia, Pa.